This document includes the ESMF, Process Framework, IPPF, LRP and Budget of the proposed activities

Recharge Pakistan Annex 6: Environmental and Social Management Framework, Indigenous Peoples Planning Framework & Process Framework

Updated February 2026

Prepared in partnership with DevCon-Islamabad

WWF GCF Agency

Environmental and Social Management Framework & Process Framework & Indigenous Peoples Planning Framework

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LIST OF ACRONYMS

CRI	Global Climate Risk Index
DevCon	Development Consultants[1]
EbA	Ecosystem based Adaptation
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESAR	Environmental and Social Assessment Report
ESS	Environmental and Social Safeguards
ESSF	Environmental and Social Safeguards Framework
FFC	Federal Flood Commission
FPIC	Free Prior and Informed Consent
GCF	Green Climate Fund
GEF	Global Environmental Facility
GLOF	Glacial Lake Outburst Flood
MoCC	Ministry of Climate Change
MoPDS	Ministry of Planning, Development and Reforms
MoWR	Ministry of Water Resources
NbS	Nature Based Solutions

[1] Consultancy hired to draft the ESMF, IPPF and PF

NDRMF	National Disaster Risk Management Fund
NGO's	Non-Governmental Organizations
IPP	Indigenous Peoples Plan
IPPF	Indigenous Peoples Planning Framework
LRP	Livelihood Restoration Plan
PAP	Project Affected People
PF	Process Framework
PMU	Project Management Unit
PSC	Project Steering Committee
PSDP	Public Sector Development Reform
SEP	Stakeholder Engagement Plan
SEAH	Sexual Exploitation, Abuse and Harassment
SIPP	Safeguards Integrated Policies and Procedures
WWF	World Wildlife Fund
WWF-Pakistan	Worldwide Fund for Nature - Pakistan

1. INTRODUCTION

The Global Climate Risk Index (CRI) 2020, developed by German Watch, evaluates the overall quantified influence of extreme weather on both fatalities and its consequence to the economy. It further projects that enhanced climate change in all parts of the world is difficult to ignore. Pakistan has recently been ranked fifth with a CRI score of 28.83[2]. Climate change has adverse impacts on Pakistan as it continues to disrupt the water balance and the hydrological cycle, induces delayed supply chains, and leads to reduced and poor food quality among other impacts. The agricultural sector has been predicted to be amongst the most adversely affected by climate change in Pakistan. The main reason behind this evaluation is because no long-term planning has been done with the establishment of necessary decision-making tools. The above-mentioned facts are some of the driving factors that led to the initiation of a project called 'Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management (hereinafter referred to as the "**Project**")

The proposed project will contribute to the GCF's fund-level adaptation objective of increased climate-resilient sustainable development by facilitating a shift towards integrated flood and water resources management in Pakistan. This shift will be achieved by improving floodwater and hill torrent management using Ecosystem-based Adaptation (EbA)[3] and green infrastructure[4] , working towards formulating integrated water management plans which combine grey infrastructure solutions with improved freshwater ecosystem management to maximize risk reduction benefits for communities and conserve the Indus Basin so critical to Pakistan's overall productivity, mainstreaming these solutions into policy and planning to catalyse their uptake as key approaches for integrated flood and water resource management, and strengthening the climate resilience of the most vulnerable rural communities in Pakistan through enhanced water management.

The project comprises of 3 major components:

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[2] 1 Global Climate Risk Index.

[3] **Ecosystem-Based Adaptation (EbA)** EbA involves the conservation, sustainable management, and restoration of ecosystems that can help people adapt to the impacts of climate change. EbA is a nature-based solution that harnesses biodiversity and ecosystem services to reduce vulnerability and build resilience to climate change[3]. EbA-solutions are defined as actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits[3].

[4] **Green infrastructure (GI).** GI refers to any vegetative or natural material infrastructure system which enhances the natural environment through direct or indirect means[4]. It is the range of measures that use plant or soil systems, permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspiration stormwater and reduce flows to sewer systems or to surface waters[4]. In this study, the construction of new elements in the landscape using natural materials, i.e. clay, sand, and stones, which contribute to climate change adaptation is considered green infrastructure.

Component 1: Proofs of concept for EbA and green infrastructure interventions as efficient and effective solutions for flood and drought risk reduction in Pakistan.

Component 2: Enabling a paradigm shift towards EBA and Green Infrastructure in Pakistan

Component 3: Enhanced community resilience and adoption of EbA and green infrastructure interventions in Pakistan's Indus Basin

The funding agency of Recharge Pakistan is the Green Climate Fund (GCF). The funding amount for the project is almost $76 million.

This project is anticipated to have a net positive impact on people and the environment, reducing climate vulnerability and contributing to Pakistan's climate adaptation efforts. Although there are risks, both from and to the project, it is anticipated that these can be avoided or mitigated and therefore this project has been classified as a Medium Risk (Category B) project under the WWF Environmental and Social Safeguard Risk Categorization (appended herewith as Appendix 7). For the complete assessment of risks and associated mitigation measures, please refer to Section 4. Anticipated Environmental and Social Impacts and Mitigation Measures. Following is a brief summary of these risks, based on WWF's Environmental and Social Safeguarding standards:

1. Plantation of exotic or non-native tree species, construction of retention and rain ponds, and improper dumping of excavated debris trigger WWF's **Standard on Protection of Natural Habitats**.
2. Creation of new or escalation of community conflicts due to access (or lack thereof) to project benefits, which triggers WWF's Standard on Stakeholder Engagement;
3. Working in project areas inhabited by IPLCs in itself is a risk, and triggers WWF's **Standard on Indigenous Peoples & Local Communities**;
4. Plantation activities, and any activity which requires the use of land for a short or long term basis, or where water flows are diverted could result in restriction of access to these areas / resources; this triggers WWF's **Standard on Restriction of Access and Resettlement**;
5. The labour hired for the excavation work is not provided with proper health and safety equipment, and is not given proper first aid training, resulting in injuries; this triggers WWF's Standard on **Community Health, Safety & Security;**
6. Due to the uncertain security situation in DI Khan and Chakkar Lehri, WWF's Standard on **Community Health, Safety & Security** is again triggered;
7. Agriculture related activities, especially where dissemination of project benefits are involved, could lead to conflict if a proper selection criteria is not developed, and can hereby trigger the standard on **conflict sensitivity** and **Stakeholder Engagement**
8. The possible location of historic sites in project areas has triggered the standard on **Cultural Resources and Livelihood Restoration**.

The Project will be executed by:

1. Worldwide Fund for Nature - Pakistan (WWF-Pakistan)

1.1. Objective of the Environmental and Social Management Framework (ESMF)

The ESMF identifies and outlines the main principles, procedures, and mitigation measures for addressing environmental and social impacts linked with the entire scope of the proposed project in accordance with

the laws and regulations of Pakistan and with WWF US's Safeguards Integrated Policies and Procedures (SIPP). An ESMF is an essential pre-requisite to address potential adverse social and environmental impacts that may occur during the project activities and provides a framework for how the project will follow ESS policies and mitigate any risks during implementation. This Framework also provides guidance to the PMU, who will be tasked with creating landscape-specific ESMPs once exact project sites have been determined during the first six months of implementation. Please note that although the objectives of the ESMF, PF and IPPF are listed separately, they are to be understood as one coherent guiding document where each section is complementary and dependent upon each other for full coherence and compliance with WWF US's SIPP.

The specific objectives of the ESMF include the following:

- To undertake an identification of the positive and negative social and environmental risks, impacts, and mitigation measures linked with the implementation of the project.
- To highlight and outline the legal and regulatory framework that is admissible to the Project Implementation.
- Determine peculiar roles and responsibilities of the actors and parties involved in the ESMF implementation.
- To put forward a list of recommendations and measures to mitigate any adverse impacts and to boost the positive impacts.
- Propose a screening and assessment methodology for once the project begins implementation and activity locations have been finalized, which will further allow an environmental/social risk identification and mitigation, and to analyze the appropriate safeguard tools and instruments.
- To set out the procedures to monitor and evaluate the implementation and effectiveness of the prescribed mitigation measures; and
- Outline the necessary requirements associated with disclosure, grievance redress, capacity building activities and budget required for the implementation of the ESMF.

It may be noted that as a result of WWF-Pakistan's engagements during Concept Note and Funding Proposal development with national (MoCC and MoWR), local (provincial irrigation departments) and international (e.g., World Bank, ADB, KfW, GIZ, etc.), the proposed project was designed to have a total of ~US$67 million in government co-finance from the NDRMF (~US$37 million) and MoWR (~US$29 million) committed to the project to complement the GCF grant. While ~US$67 million in government co-finance from the NDRMF and MoWR was committed to the project to complement the GCF grant, the recent 2022 floods have required that these funds be repurposed for immediate disaster relief making it very difficult for the Government of Pakistan to commit significant adaptation finance at this time. Despite these constraints, the GoP remains committed to the proposed project but is unable to commit any co-financing for the project due to the economic constraints on public spending due to the high costs for recovery from the 2022 floods.

As a result of the above-mentioned co-financing no longer being available for the project, the project has been re-scaled from 6 sites [Manchar, Kaha, Taunsa, Chakar Lehri, DI Khan and Ramak] to four sites

[Manchar, Chakar Lehri, DI Khan and Ramak]. The ESMF has been revised to reflect the activities required only in the four project sites.

1.2. Objective of the Process Framework (PF)

The Project triggers WWF's Standard on Access Restriction and Resettlement as it may restrict or otherwise affect access to natural resources and the livelihood activities of project-affected people (PAP). This Process Framework (PF) describes the process by which affected communities participate in identification, design, implementation and monitoring of relevant project activities and mitigation measures. The purpose of this PF is to ensure participation of Project Affected People (PAP) while recognizing and protecting their rights and interests and ensuring that they do not become worse off as a result of the project. Specifically, the PF will:

- Highlight the activities that may involve novel or rigorous restrictions on the use of natural resources present in the authority of the project.
- Establish such a mechanism by means of which the local communities complement the design, implementation, and monitoring of the project.
- Describe the prospective negative impacts of the restriction on the encompassing communities, including any gender differences.
- Frame the criteria for eligibility of economically displaced communities to receive compensation benefits and development assistance (no physical displacement will be allowed under this project or any WWF project).
- Outline the mitigation measures required to assist any economically displaced people in their efforts to improve their livelihoods, or to restore them in literal terms, while perpetuating the sustainability of the landscape, will be identified.
- Set out the grievance procedure or process in order to resolve the disputes regarding natural resource use restrictions.
- Design the participatory and monitoring arrangements with the members of the impacted community/ies.

This project shall focus on improving and enhancing the livelihoods and resilience of Indigenous Peoples & Local Communities (IPLCs) therefore the allocation of project incentives and benefits aimed at the local community members is important. The foremost objective of this framework is to guarantee transparency and equity in the planning and implementation of activities in the project. This framework features the principles and processes for assisting communities to determine and control any possible negative implications of the project activities. The exact social impacts of the project will only be identified in the course of project implementation, and a PF will ensure the mitigation of potential negative impacts from project investments through a participatory process that will consider the stakeholders and the rights holders. It will also ensure that any desired changes by the communities in the ways in which IPs exercise customary tenure rights in the project sites would not be imposed but should emerge from a consultative process.

1.3. Objective of the Indigenous Peoples Planning Framework (IPPF)

The target areas include Indigenous groups. According to GCF/WWF, Indigenous peoples often have identities and ambitions which are distinct from the mainstream groups in the national communities. These are the group of people who have been deprived by the conventional models of mitigation, adaptation, and formation.

Keeping this in view, several communities that have been recognized as Indigenous people in Pakistan reside within some of the main project sites. These include the Mohana tribe resides in Manchar (Dadu), a fishing community also referred to as Bird People or Lords of the Sea. Therefore, a broad range Indigenous Peoples Planning Framework will be prepared for the aforementioned project sites in accordance with WWF's Environment and Social Safeguards Framework, and individual IP Plans will be created during project implementation based on the results of the ESS screening of each landscape once project sites are finalized.

Based on the Standards provided by WWF on IPs, the above-mentioned people would be considered as Indigenous, ethnic, or tribal minorities. Thus, an Indigenous People's Planning Framework must be prepared.

The main purpose of the IPs Planning Framework is to refine the principles, procedures, and organizational arrangements to be applied to IPs for Recharge Pakistan. This framework will serve as a guideline to the project team to:

- Enable them to construct an IPs Plans (IPs) for specific proposed activities in accordance with WWF's Environment and Social Safeguard Integrated Policies and Procedures.
- To engage the affected IPs in a Free Prior and Informed Consent (FPIC) process.
- Enable IPs to benefit equitably from the project.

1.4. ESMF/PF/IPPF Preparation Methodology

The consulting team hired to prepare the ESMF is DevCon consultants. The team has adopted a participatory and need-based approach to develop the Environmental and Social Management Framework and other safeguards documents for the 4 project sites. The consultant and field team have followed national COVID-19 public health measures and international best practices when undertaking the assessment study in each target district. The Consultant has tried their best to also ensure that all participants in the data collection process are adequately protected and recommended health precautions have been followed.

The consultants have employed both quantitative and qualitative methods that will provide access to specific and general information as needed. The foremost aim of the consultant was to prepare essential safeguard documents that comply with WWF's Environmental and Social Safeguard Framework (ESSF) as integrated in the policies and procedures.

The ESMF/PF/IPPF draws on consultation, and on the relevant laws and regulations of Pakistan and the ESSF and SIPP. The relevant laws and regulations of Pakistan related to safeguards apply to the project since it is implemented within the authority of Pakistan. WWF's SIPP applies since the project is managed

by WWF, which is an implementing agency of the GCF and therefore also meets or exceeds GCF safeguards policies as well.

Methodology

Devcon adopted a participatory and needs-based approach to develop an Environmental and Social Management Framework and other safeguards documents for the 4 sites.

The consultants did both quantitative and qualitative methods that provide access to specific and general information. Individual as well as institutional opinions even declarative statements - including the conscious and unconscious discrepancies between peoples' perceptions and actions. Every bit was systematically noted down to grasp the situation and suggest and generate and disseminate evidence-based information.

Summary Methodology

Inception Stage

• DevCon held an inception meeting with Project staff, agreeing on the scope of the assignment, and respondents to be interviewed. • DevCon coordinated with the Project Development Team (PDT) for the planning and development of the Environmental and Social Management Framework and the associated documentation necessary for the proposal to the GCF. • DevCon developed a comprehensive work plan, including interviews, consultations and meetings with staff.	Production of a work plan and timeline + Planning of study tools

Approach & Methods

• DevCon comprehensively reviewed documents sent by WWF. • Based on the extensive review of documents, the team established good knowledge of the project and was helpful in designing the Framework and other safeguards documents tools.	Secondary Data Review Tool Development
• Inception report is submitted and all comments and feedback were incorporated in the final inception report.	Submitted inception report
• *Quantitative and Qualitative* approaches were applied to gather sufficient information • Mapping was done in each site to identify the vulnerabilities and social dimensions of risks such as literacy, gender equity and levels of employment.	Primary Data Collection

• A detailed secondary and primary data analysis has been done, and the results compared, computed and triangulated to validate the findings.	Data Analysis + Report
Draft Compiled Report	
DevCon team developed the first draft and present it to PROJECT Team	

2.2 Pre-Planning

Pre-Field Activities

1. An introductory meeting with Project Staff and DevCon Team was done. The consultant and team reviewed the documents and tools that were developed.

The following documents were reviewed by the consultant and team.

1. Recharge Pakistan: Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management
2. Prefeasibility Report
3. Hydrological and Soil/Sediment Assessment Report
4. Multi—Stakeholders Consultation Report
5. Final List of interventions DI khan Region
6. Environmental and Social Policies of the GCF and WWF US, including the Indigenous Peoples Policies of each
7. Gender Policies of the GCF and WWF US
8. Gap Analysis / List of Questions Recharge Pakistan
9. WWF Environmental & Social Safeguards screening tool for Individual Projects Adapted for GEF and GCF Projects Implemented by WWF
10. WWF Environmental and Social Safeguards - Risk Categorization Memorandum
11. WWF Environmental and social safeguards framework
12. WWF gender policy
13. Safeguards Manuals
14. Environmental and social safeguards Standards and Grievance Mechanism

The following tools were used to gather data from communities while in the field: .

- Household Survey - Quantitative
- Qualitative Key Informant Interviews (KIIs) schedule for stakeholders - Qualitative

Training of data Collection officers and field teams

The data collection officers were trained as a group so that everyone in the field teams understood how to use the surveys and KIIs, as well as understanding the overall project and consultancy objectives.

Field Activities

Household Survey

Sr#	Sites	Sample Size
1	D I Khan Hill Torrents + Zhob River Floodplains	**62**
2	Manchar Wetlands Complex	**62**
3	Chakar Lehri Sub-basin	**62**
4	Haleji and Hadero Wetlands	**62**
Total		**248**

Key Informant Interviews

Sr#	Stakeholders	Sample Size
1	WWF Project Team	2
2	Local Government Authorities	2 per sites total 12
Total		**14**

In-depth Interviews

Sr#	Stakeholders	Sample Size
1	Research Institutions	3 in each Sites Total 18
2	Development organizations	3 in each Sites Total 18
Total		**36**

In order to avoid duplication and for ease of reference, the ESMF, PF, and IPPF are combined into a single document.

2. PROJECT DESCRIPTION

This chapter outlines the objectives of the Recharge Pakistan project, its components, milestones, and major supported activities.

2.1 Project Objectives and Components

Recharge Pakistan is a proposed GCF project that aims to aid the people of Pakistan to build resilience towards Climate Change through ecosystem-based adaptation for integrated flood risk management.
Pakistan is characterized by diverse topography, ecosystems, and climate zones. Rich in natural resources, including fertile agricultural lands, natural gas reserves, and mineral deposits, Pakistan faces challenges in balancing competing objectives between economic development and environmental protection. A semi-industrialized country, Pakistan has grown from a primarily agriculture-based to a mostly service-based economy (with services constituting 49.4% of the Gross Domestic Product — GDP — in 2019). As of 2019 agriculture was still the largest employer, occupying 42.6% of the workforce. By 2013 approximately 29.5% of the population still lived below the national poverty line and by 2018, 12.3% of the population remained undernourished. Pakistan is situated at the western end of the great Indo-Gangetic Plain. Of the total area of the country, about three-fifths consists of rough mountainous terrain and plateaus, and the remaining two-fifths constitutes a wide expanse of level plain[5]. The land can be divided into five major regions: the Himalayan and Karakoram ranges and their subranges; the Hindu Kush and western mountains; the Balochistan plateau; the submontane plateau; and the Indus River plain[6]. The majority of Pakistan's 225.1 million people (2021)[7] live in the Indus River plain, an area prone to severe flooding in July and August. Major earthquakes are also frequent in the mountainous northern and western regions of the country.

Climatically, Pakistan lies in a temperate zone and its climate is as varied as the country's topography — generally dry and hot near the coast and along the lowland plains of the Indus River and becoming progressively cooler in the northern uplands and Himalayas (Köppen-Geiger classifications include BWh, BWk, BSh, BSk, Cwa, Cwb, Cfa, Dfa, Dfb, Dsa, Dsb and Dfd)[8]. Four seasons are recognized: i) a cool, dry winter from December to February; ii) a hot, dry spring from March through May; iii) the summer rainy season, also known as the southwest monsoon period, occurring from June to September; and iv) the retreating monsoons from October to November. Average monthly rainfall and temperature range from 6.6 mm in October to 53.4 mm in August, and 9.3 °C in January to 29.7 °C in June, respectively. The majority of the country receives very little rainfall, with the exception of the Northern regions, where monsoons can bring upwards of 200 mm a month from July to September (1991–2020 trends)[9]. Inter-annual rainfall varies significantly, often leading to successive patterns of floods and drought. El Niño is a significant

[5] Climate Risk Country Profile: Pakistan (2021): The World Bank Group and the Asian Development Bank. Available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15078-WB_Pakistan%20Country%20Profile-WEB.pdf

[6] Source: https://data.worldbank.org/indicators/SP.POP.TOTL?locations=PK

[7] Source: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=PK

[8] BWh: arid desert – hot and arid; BWk: arid desert – cold and arid; BSh: arid steppe – hot and arid; Cwa: warm temperate – winter dry and hot summer; Cwb: warm temperate -– winter dry and warm summer; Cfa: warm temperate – fully humid and hot summer; Dfa: Snow – fully humid and hot summer; Dfb: Snow – fully humid and warm summer; Dsa: Snow – summer dry and hot; Dsb: Snow – dry and warm summer; Dfd: Snow – fully humid and extremely continental. Source: http://koeppen-geiger.vu-wien.ac.at/present.htm

[9] Source: https://climateknowledgeportal.worldbank.org/country/pakistan

influence on climate variability in Pakistan, with anomalies in both temperature[10] and flood frequency and impact[11] correlated with the El Niño cycle.

The project has been conceptualized keeping in view the overall impact of climate change on Pakistan in recent years. Pakistan has also been ranked as the fifth most affected country[12]. According to this report, Pakistan lost 9,989 lives, suffered economic losses worth $3.8 billion and witnessed 152 extreme weather events from 1999 to 2018 and based on this data, the report concluded that Pakistan's vulnerability to climate change is increasing. In addition, the Global Change Impact Studies Center of Pakistan reveals that the average mean temperature of the country has increased in recent years especially in Sindh and Balochistan provinces. Such a probable increase in the temperature of the country would be 1 degree Celsius more than the global average[13]. This increase in temperature would cause an increase in the severity of extreme events, such as floods, droughts, glacier melting, cyclonic activities, and heatwaves etc. Such a probable increase in the temperature of the country would be 1 degree Celsius more than the global average[14]. This increase in temperature would cause an increase in the severity of extreme events, such as floods, droughts, glacier melting, cyclonic activities, and heatwaves etc. Hence, pressure on Pakistan's ecological resources is mounting and in the wake of worsening climatic changes, this will further exacerbate.

The reasons stated hereinabove led WWF and its partners to initiate a project called Recharge Pakistan. The main objective of the project is to design and formulate relevant solutions that are drawn from nature and native ecosystems. The urban, peri-urban, and rural communities are the beneficiaries of this project as the proposed activities are geared towards enhancing sustainable livelihoods and provision of better quality of life. Strong and effective public-private community investments need to be put in place for climate resilient measures in order to reduce the vulnerability of the affected Local Communities and Indigenous Peoples. Integrated and inclusive water resource management frameworks and coping mechanisms need to be developed to enable effective emergency responses.

In recent years, several initiatives were undertaken in Pakistan such as a GCF funded *GLOF Risk Reduction in Northern Pakistan* and *Transforming the Indus Basin with Climate Resilience Agriculture and Water Management*, as well as a World Bank funded *Balochistan Small Scale Irrigation Project*, but all of the project/programs lack the state-of-the-art Nature-based Solutions/Ecosystem-based Adaptation (NBS/EBS) solutions. The NBS/EBA is a widely used approach to deal with the impact of climate change however in Pakistan these approaches have yet to gain momentum[15]. Therefore, in order to undertake the preparation of a concept note for the Green Climate Fund (GCF), WWF took steps to analyze and

[10] del Río, S., Iqbal, M.A., Cano-Ortiz, A., Herrero, L., Hassan, A. and Penas, A. (2013). Recent mean temperature trends in Pakistan and links with teleconnection patterns. International Journal of Climatology, 33, 277–290. URL: https://rmets.onlinelibrary.wiley.com/ doi/full/10.1002/joc.3423

[11] Ward, P.J., Jongman, B., Kummu, M., Dettinger, M.D., Weiland, F.C.S. and Winsemius, H.C. (2013). Strong influence of El Niño Southern Oscillation on flood risk around the world. Proceedings of the National Academy of Sciences, 111, 15659–15664. URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4226082/

[12] 1 Global Climate Risk Index.

[14] https://iips.com.pk › climate-change-impact-on-Pakistan

[15] Detailed Feasibility Report prepared by Watersprint for the project "Recharge Pakistan"

identify the areas for intervention. A three-phase screening mechanism for site selection was used by WWF which included the following points:

- Identification and relevant assessment based on bio-physical, socio-economic, and ecological data and information.
- Risk assessment based on spatial maps of hazards, vulnerabilities, and technical feasibility.
- Suitable and relevant assessment based on respective ecosystems.

The aim of the Recharge Pakistan project is to elevate water storage and recharge through floodplains, wetlands and management of hill-torrents[16]. The intent is to promote climate-adapted natural resource management based on communities and livelihood improvements that will initiate a paradigm shift to scale up EbA approaches and introduce green infrastructure interventions. Several governmental entities have been unified in an unrivaled collaboration in association with WWF. The basis of this collaboration is to project nature-based solutions for climate change adaptation across Pakistan.

In order to ensure that ecosystem-based adaptation interventions are sustained and maintained properly, community-based natural resource management and climate adaptation will be implemented locally. Thus, the entire project aims to increase the livelihoods and resilience of the most vulnerable communities living in Pakistan's Indus Basin through restoring and rehabilitating key ecosystems, implementing green infrastructure interventions to reduce flood impacts, strengthening governance and capacity among policymakers and planners to implement integrated water resources management strategies, and enhancing community-based natural resources management.

Furthermore, to tackle the impacts of climate change and water security, Recharge Pakistan will contribute to enabling policy measures which lead to the development of additional water storage capacities in wetlands alongside specific rivers in Sindh and Balochistan. These water storage capacities would regulate water discharges during high floods and would promote rain harvesting among the local areas.

Key stakeholders and implementing partners of this project include the Ministry of Planning, Development and Reforms, Ministry of Water Resources, Ministry of National Disaster Management, Pakistan Meteorological Department, Provincial Irrigation Departments, Tribal chiefs and others.

2.2 Desired Indicators for Recharge Pakistan:

The adaptation mechanism indicators which are relevant to Recharge Pakistan are provided by GCF Investment Potential. The adaptation impact indicators assist in explaining the expected changes in the present setting, which is causing loss of lives, impacting the value of physical assets, damaging the environment and livelihoods of a specific area.

The desired indicators of Recharge Pakistan include:

1. Increase resilience to floods and droughts through Ecosystem-based Adaptation (EbA).

2. Increase capacity of water-stressed areas for efficient storage and use of flood waters.

[16] Hill torrents (locally known as *Rodh Kohi*) are distinct type of waterways and the term is primarily used for a steep mountainous stream generating quick runoff.

3. Enhance recharge of groundwater through wetland restoration and by managing hill torrents for social, economic, and environmental co-benefits.

These indicators map on to the following adaption indicators from the GCF's Mitigation and Adaptation performance measurement framework.

- ➔ Change in expected losses of lives and economic assets (US$) due to the impact of extreme climate-related disasters in the geographic area of the GCF intervention.
- ➔ Number and value of physical assets made more resilient to climate variability and change, considering human benefits (reported where applicable).
- ➔ Coverage/scale of ecosystems protected and strengthened in response to climate variability and change.
- ➔ Value (US$) of ecosystem services generated or protected in response to climate change.

2.3 Project Components:

The objective of Recharge Pakistan is to reduce flood risk and elevate water recharge mechanisms around the entire country specifically in Khyber Pakhtunkhwa, Sindh and Balochistan. In addition to this, to build the resilience of local communities residing in stressed ecosystems. The project has three main components which are:

Component 1: Proofs of concept for EbA and green infrastructure interventions as efficient and effective solutions for flood and drought risk reduction in Pakistan.

Outcome 1. EbA and green infrastructure interventions with improved community-led management reduce flood risk and enhance the climate resilience of the most vulnerable people in Pakistan's Indus Basin.

Component 2: Enabling a paradigm shift towards EBA and Green Infrastructure in Pakistan.

Outcome 2: Enabling environment for climate action that has new procedures for implementing EbA and green infrastructure interventions for flood and water resources management in Pakistan.

Component 3: Enhanced community resilience and adoption of EbA and green infrastructure interventions in Pakistan's Indus Basin.

Outcome 3: Enhanced resilience of community livelihoods in the Indus Basin.

2.4. Project Area Profile

WWF undertook initial scoping for the identification of intervention areas through a screening mechanism in which site assessment was done on the basis of socio-economic, ecological, and biophysical data. Opportunity and risk assessments were conducted with the help of spatial maps and a sustainability assessment was done in selected areas on ecosystems. The criteria laid down by WWF and GCF determined that the sites are primarily selected on the basis of their exposure to flood risk rather than potential drought risk. To further elaborate, most of the sites and green infrastructure interventions are primarily selected on the basis of their exposure to flooding. But some interventions and sites have also been considered to address the drought risk by looking at future climate change and weather patterns during the feasibility studies.

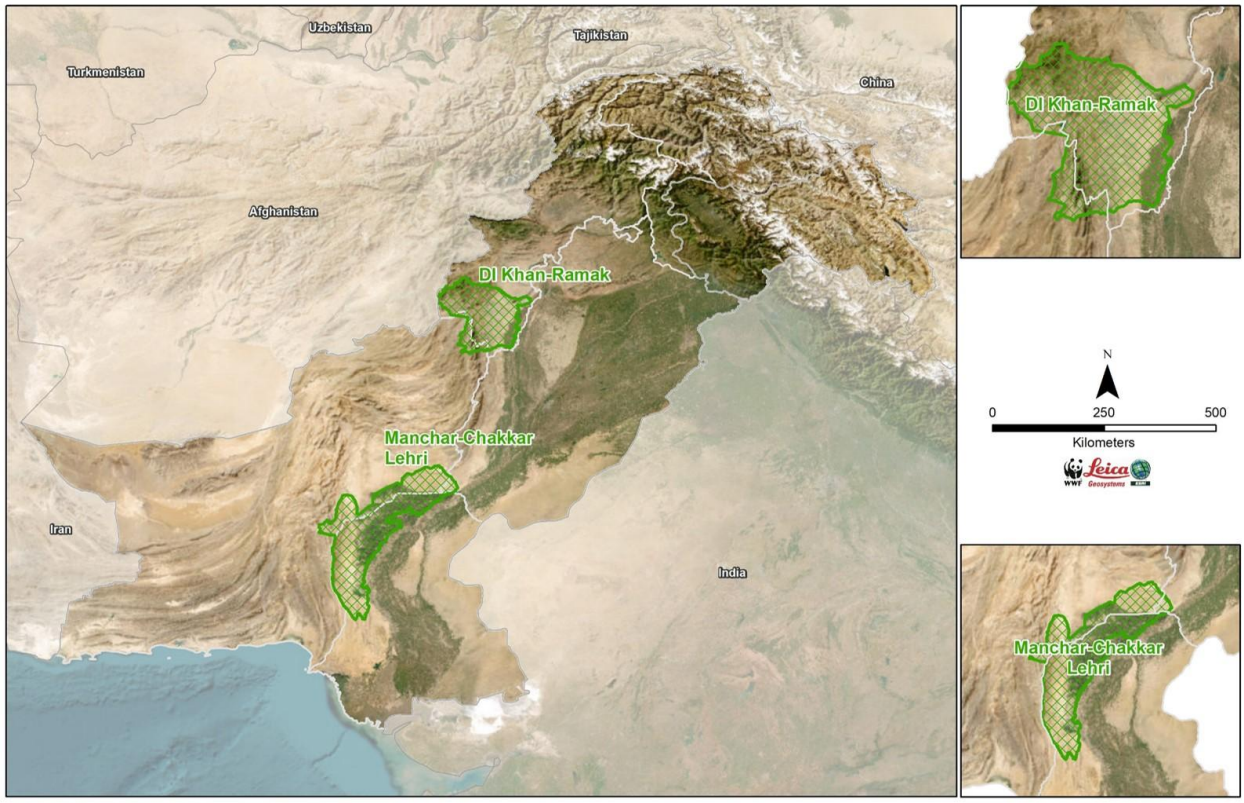


Figure 1d

The proposed sites of the project stretch along 1500Km of the Indus, starting from areas in Khyber Pakhtunkhwa to areas in Sindh, and Baluchistan. The suggested sites are Manchar Lake in Sindh, Ramak, and D.I. Khan Hill Torrents, of Khyber Pakhtunkhwa, and Chakkar Lehri sub-basin of Balochistan. The proposed project areas have been pooled together in two groups for enhanced understanding and clear definition of objectives for each group. The grouping has been done in the following manner:

1. **Hill Torrents**: Includes DI Khan potential sites, Ramak, and Chakkar Lehri sub-basin

The Hill Torrents are the areas of physical scarcity and erratic rainfall, surface water is generated by rainstorms. The upper areas in such regions are mainly rangelands with vegetation being mostly grasses. The land is marked by scattered vegetation cover, ceremonial land use, absence of watershed management and soft rock formations. Flash floods are generated in these areas in the monsoon region resulting in loss of life and property, and climate change has greatly increased this threat. The means of income and production in the area under consideration are mainly agriculture and livestock. The cropping method here primarily depends on availability of water and mode of irrigation. Wheat, millets, and oil seeds are the major crops grown in this region. Livestock, which is an essential source of income, includes buffalo, goat, sheep, and cattle. The agricultural land in this respective region is fertile but is exposed to threats of uncertain flash floods. This uncertainty and scarcity of water has to be managed in an adequate manner to raise the standard of living of the communities.

2. **Freshwater Lakes and Watersheds**: Manchar Lake

Natural lakes are freshwater sources in the region and are of high value as they provide the community's source of income, food, tourism, recreation, transportation, and energy production. The lakes in this region are an important source of livelihood as it provides food to the communities and income to the fisherfolk in these areas. The freshwater bodies provide for agriculture and wildlife including marine life. However, environmental degradation has made the lake water extremely saline and the fisherfolk and agrarian families of the surrounding communities have incurred a great loss in income and standard of living has dropped.

2.5. Demographic and economic information

The information in this section is centered around a baseline survey which was undertaken [17] in all the project sites during April of 2022.

A total of 526 households were interviewed across all of the project sites. The figure provides a comprehensive breakdown of gender-based distribution of the community. The gender distribution is similar to that of national statistics. The survey data reveals that 52.13% are male community[18], whereas the remaining 47.87% are females.

Following graph provides age-based disaggregation of the community. With a mean age of 22.86 years, the calculation shows that a significant number of the people are younger than 20 years.

Figure 2

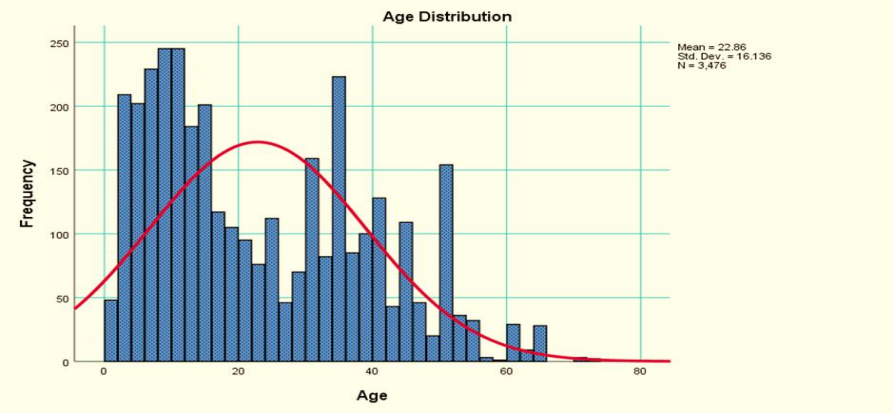
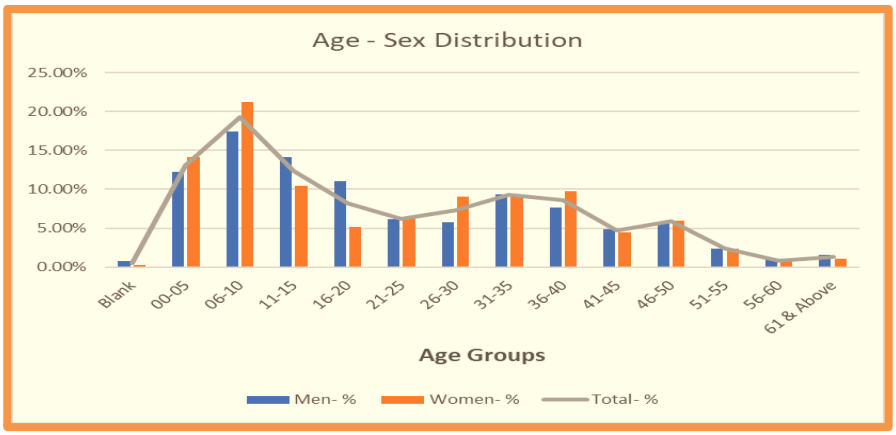


Figure 2 presents gender disaggregated age distribution information of the community in project sites. The graph reflects that most of the population (male as well as female) is clustered around age group 05-26.

Figure 3

[17] This survey was conducted during April 2022. For the purpose of consistency and reliability of the data an android-based app was designed

[18] here the definition of male include adult members, which is 18 years and above



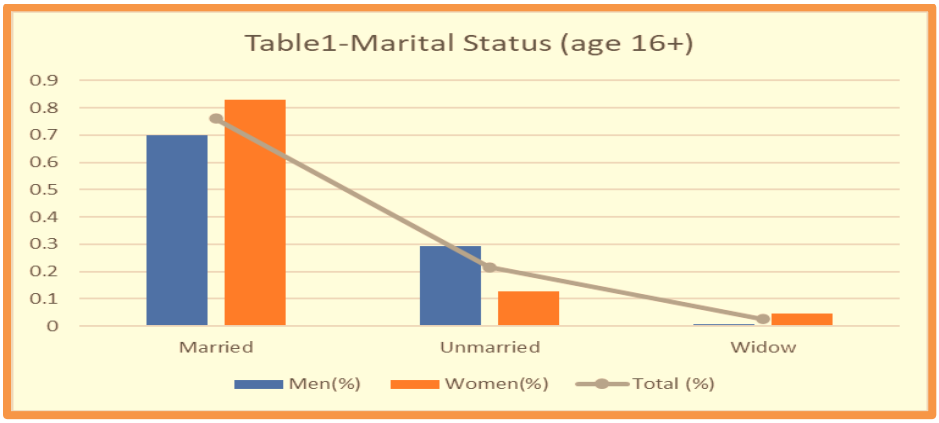


Figure 4

The figure above maps the higher trend of early marriage amongst the inhabitants (male & female) of the project area.

Figure 5 indicates that a significant percentage of both boys and girls aged 4-16 are uneducated, however, in terms of gender disparity, girls are disadvantaged.

Figure 5

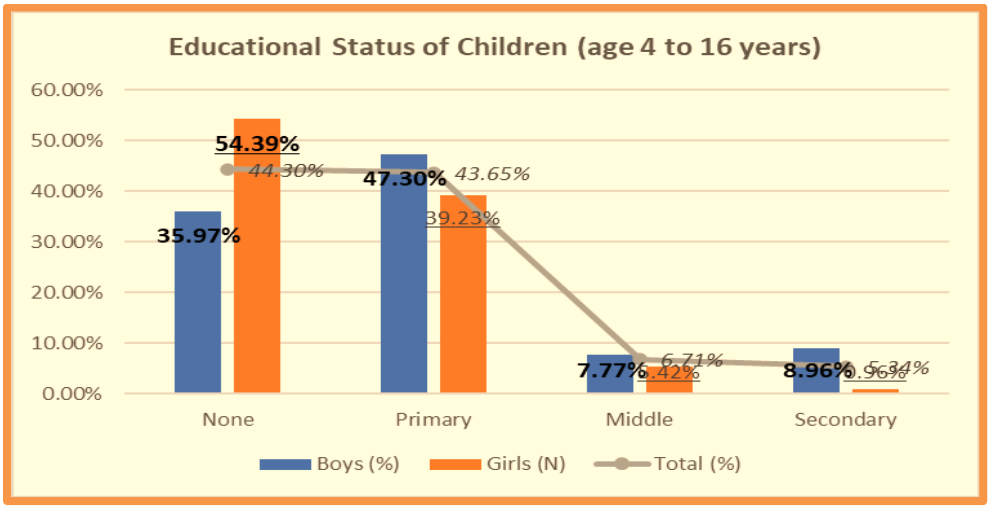
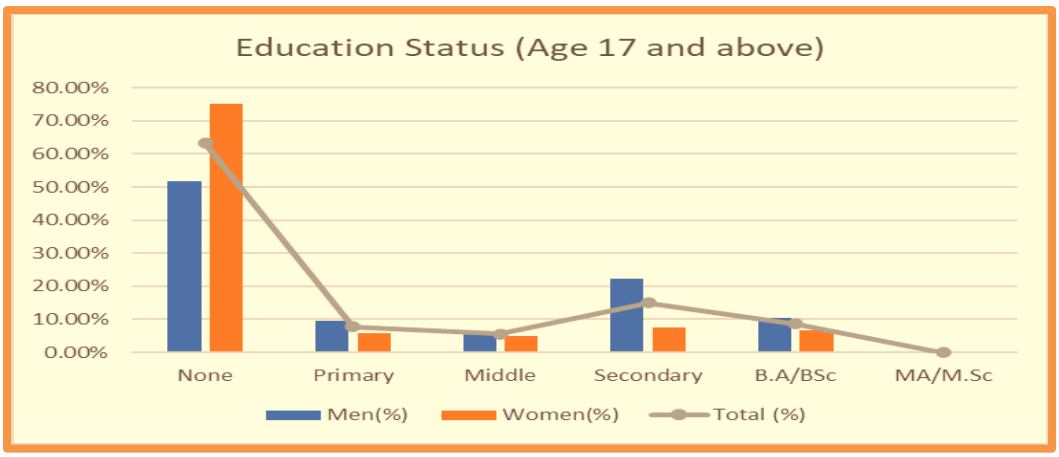


Figure 6



The aforementioned figure reflects the educational statistics of adult male and females. The chart shows low levels of education among both sexes. Almost 75 percent of females are uneducated, however the ratio of uneducated males is around 50 percent.

The pattern of educational attainment of the community is reflective of their employment status of community members aged. Figure 7 shows the sectoral employment ratios for children aged 16 and below are dominated by males whereas female representation in the workforce is close to none. For instance, except 3.82% of females who are engaged in fishing, the remaining 96.18% are unemployed. Nevertheless, the boys' employment ratio, though higher than girls, is also modest.

Figure 7

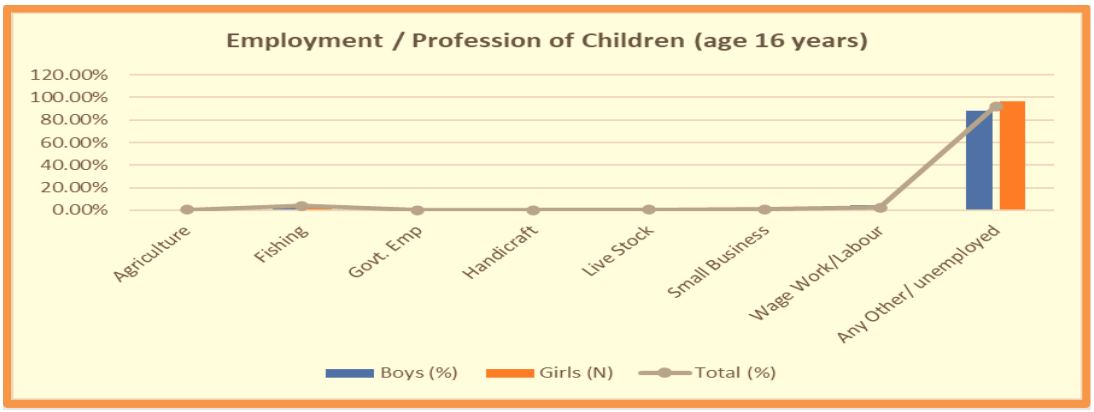
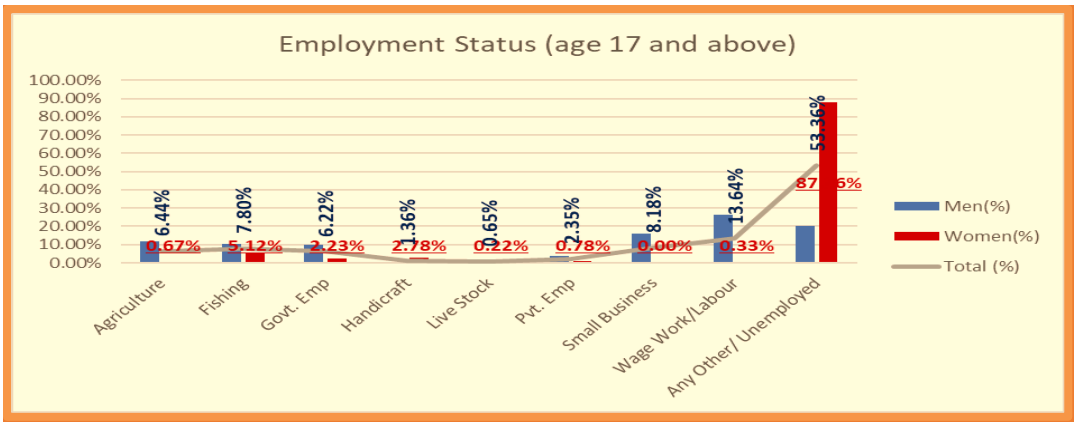
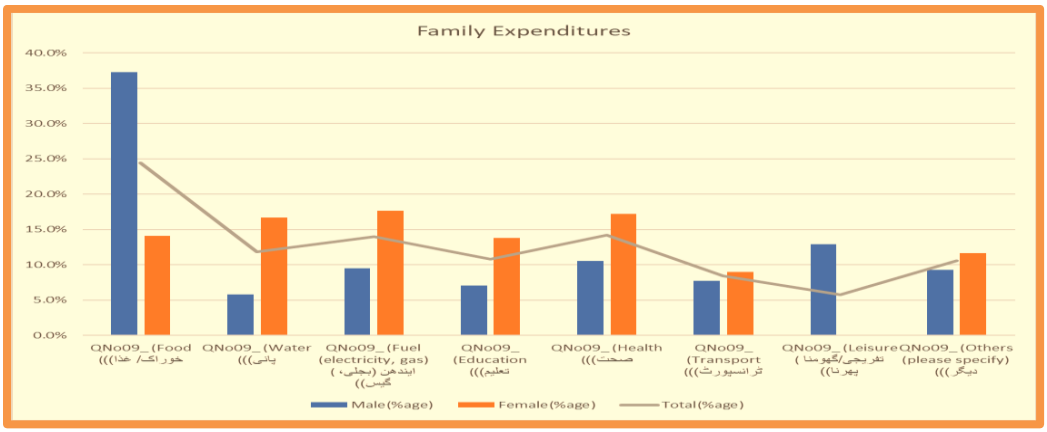


Figure 8



The survey reveals that amongst the adult male community members, major sources of employment include labor work, agricultural activities, and small businesses. Almost an equal number of male dwelling members are engaged in fishing and government jobs. The male unemployment rate is 20 percent, whereas 53 percent of the females are unemployed. Women are mostly engaged in the fishing industry.[19]

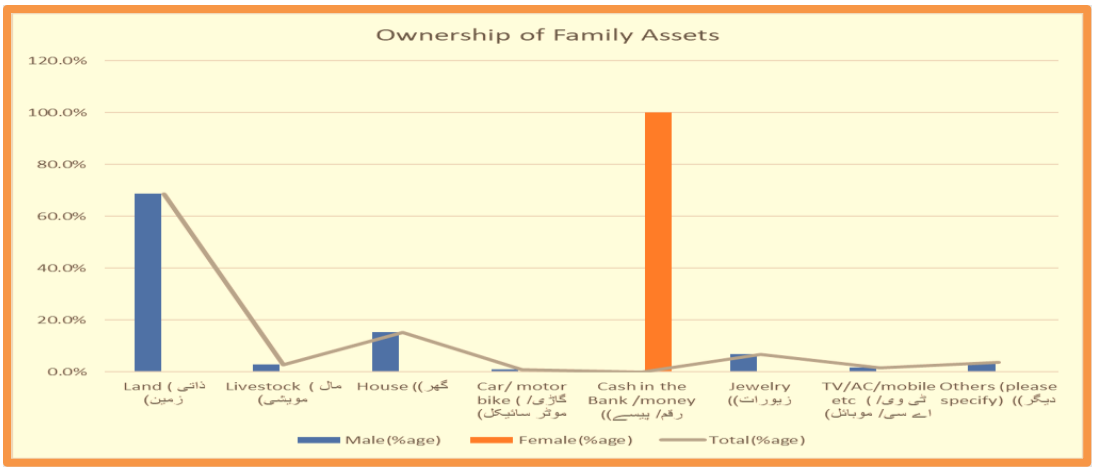
Figure 9



The aforementioned figure explains the gender disaggregated family expenditure on various goods and services. Females' expenditure is mostly concentrated in health, education, fuel, water, and other areas. Whereas men's major spending includes food and leisure items.

Figure 10

[19] As per the requisite provincial "Restriction on Employment of Children Act" laws, a "child" is defined as a "person who has not attained the age of fifteen years." This Act expressly prohibits the employment of a child in any "establishment", which means to include any industrial, commercial or agricultural establishment, factory, mine, workshop, business, trade, undertaking, and place where any economic activity including moulding and manufacturing process is carried on; and, includes charitable and welfare organizations, whether run for profit or otherwise and any other establishment, class of establishments or workplace notified by the Government in the official Gazette. However, the law permits the employment of "adolescents", that is an person who is over the age of 15 and under the age of 18 in any work that is not deemed hazardous[19].



The graph presents the gender disaggregated data regarding the possession of different types of assets. The graph reveals that females mainly maintain monetary assets, whereas males own all the remaining assets. The graph shows that land is the most common asset that men hold which is followed by house, jewelry, and other assets.

2.6. Site Specific Information

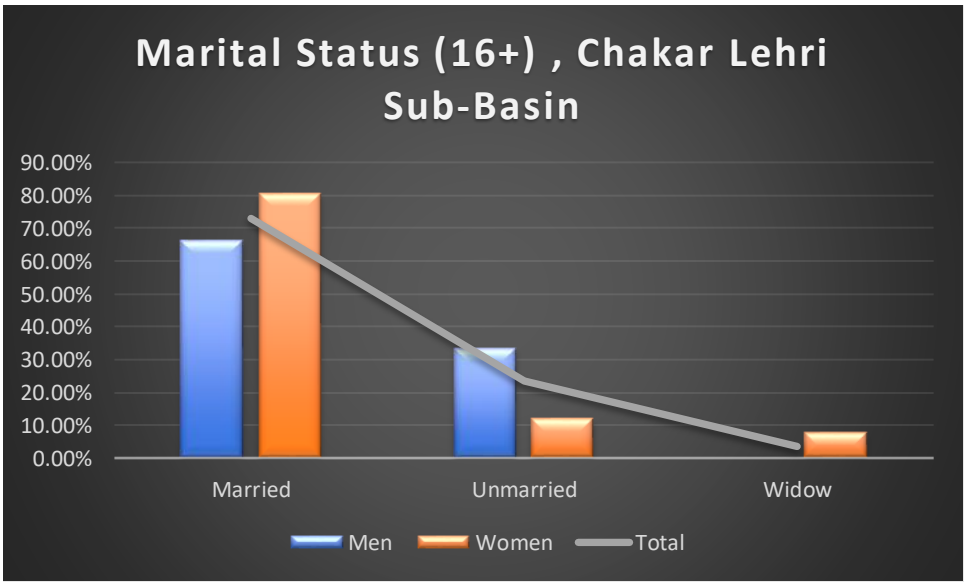
2.6.1 Chaker Lehri

The following graph provides age-based segregation of the local tribal community. With a mean age of 27.3 years, which is higher than the overall mean average of 22.86 years. The calculation shows that a significant number of the population is younger than 30 years.

Figure 11



Figure 12



The figure above maps the higher trend of early marriage amongst the inhabitants (male & female aged 16+) of the project area. Almost 80 percent of all women aged 16+ are married which is indication of early marriages.

Whereas, following Figure indicates that a significant percentage of both boys and girls aged 4-16 are uneducated, however, gender disparity in terms of educational attainments is evident. This trend is similar to the overall tendency.

Figure 13

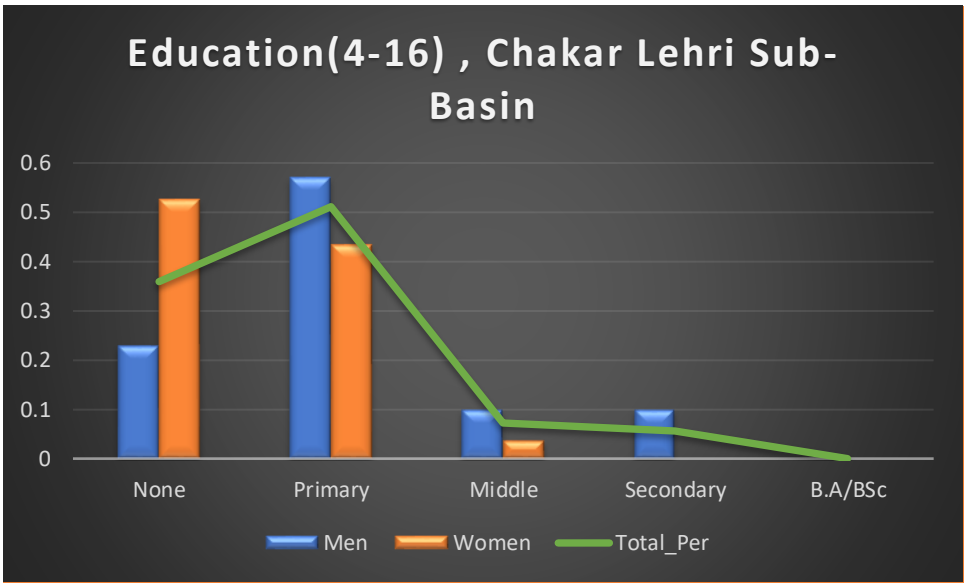
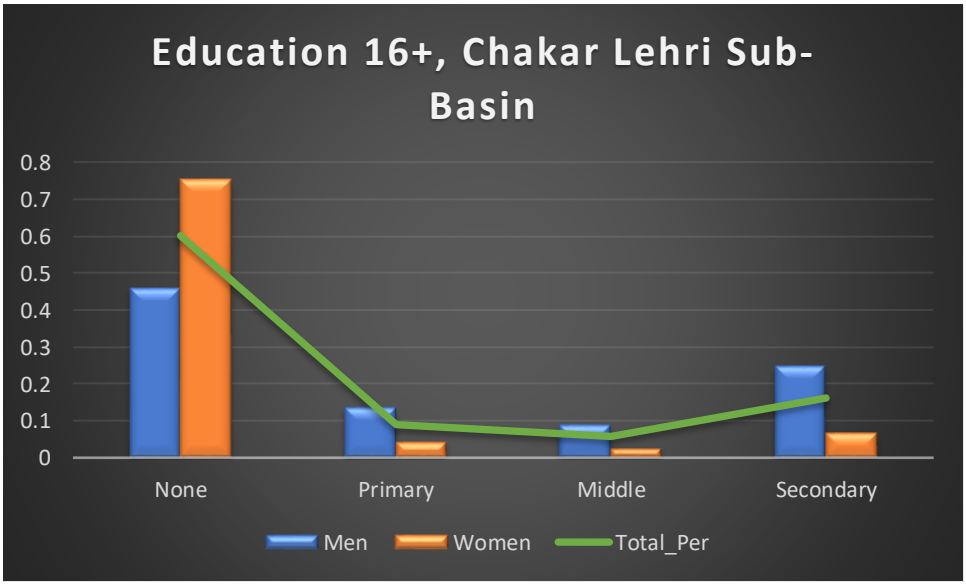


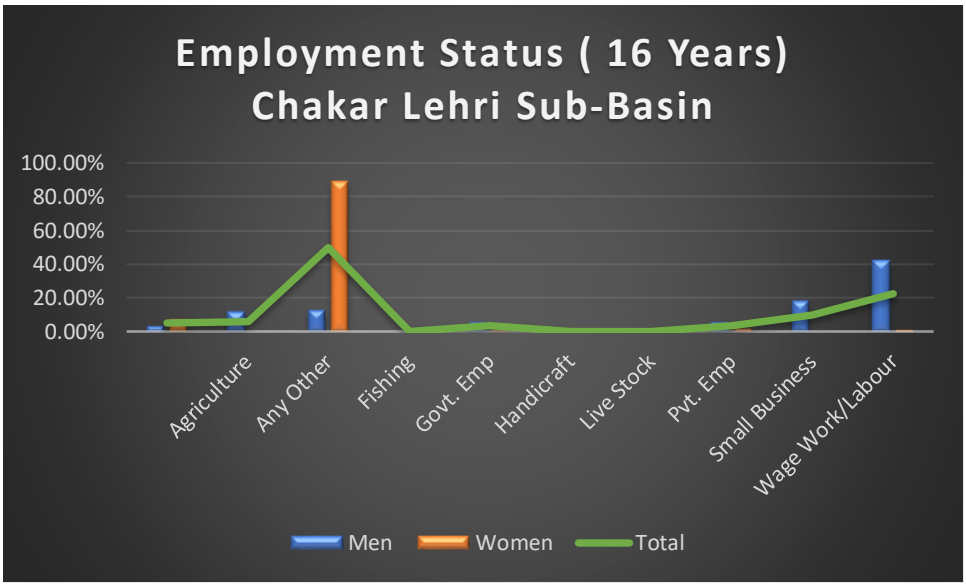
Figure 14



The aforementioned figure reflects the educational statistics of adult male and females. The chart shows low levels of education among both sexes. Majority of females are uneducated; however, the ratio of uneducated males is around 50 percent.

The sectoral employment ratios are dominated by males who are mostly engaged as labors. Whereas female representation in the workforce is close to none, as they mainly taking care of domestic affairs. Nevertheless, men's employment ratio, though better than women's, is also modest.

Figure 15



The survey reveals that amongst the adult male community members, majority of them are unemployed.

Figure 16

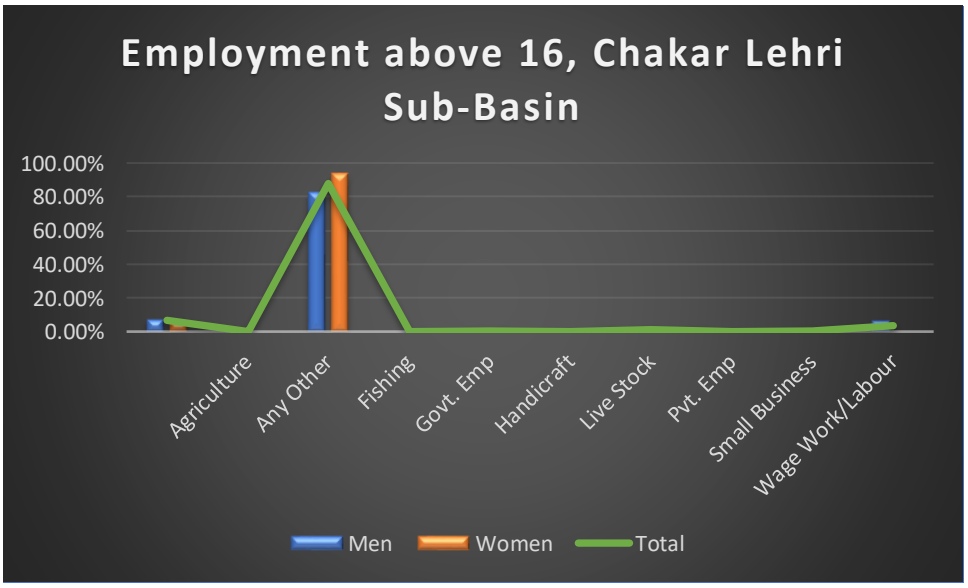
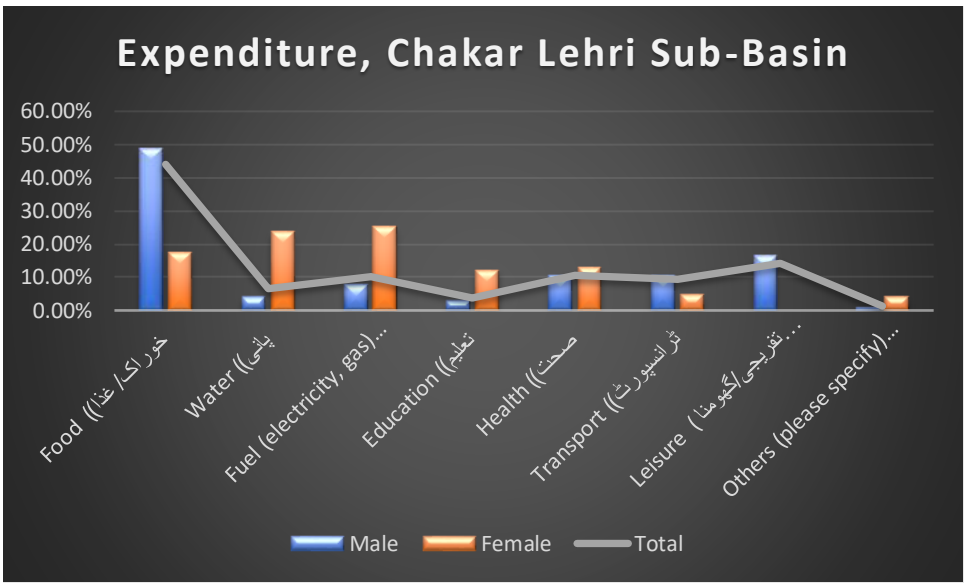


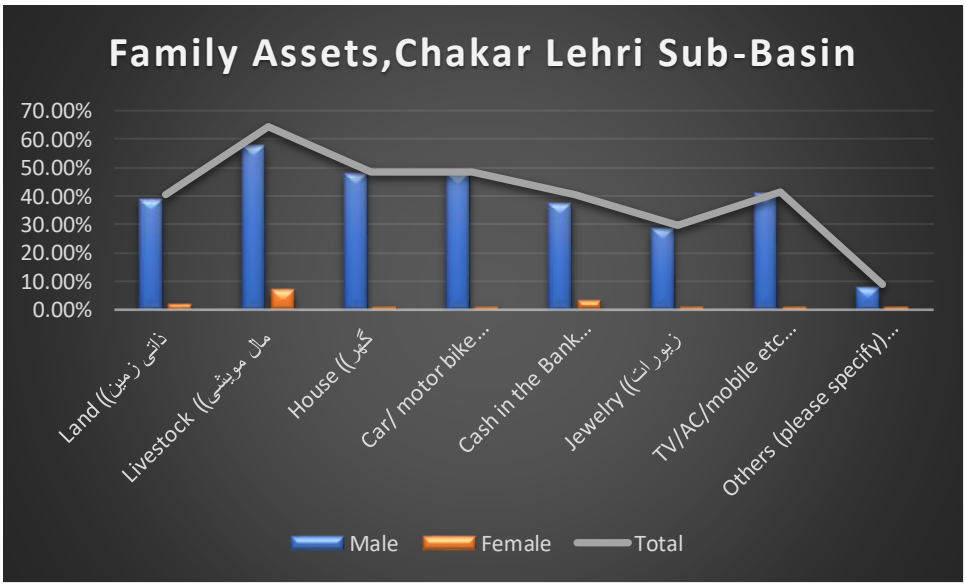
Figure 17



The aforementioned figure explains the gender disaggregated family expenditure on various goods and services. Females' expenditure is mostly concentrated in health, education, fuel, water, and other areas. Whereas men's major spending includes food and leisure items.

The graph presents the gender segregated data regarding the possession of different types of assets. The graph reveals that females mainly maintain monetary assets, whereas males own all the remaining assets. The graph shows that livestock is the most common asset that men hold which is followed by land house, jewelry, and other assets.

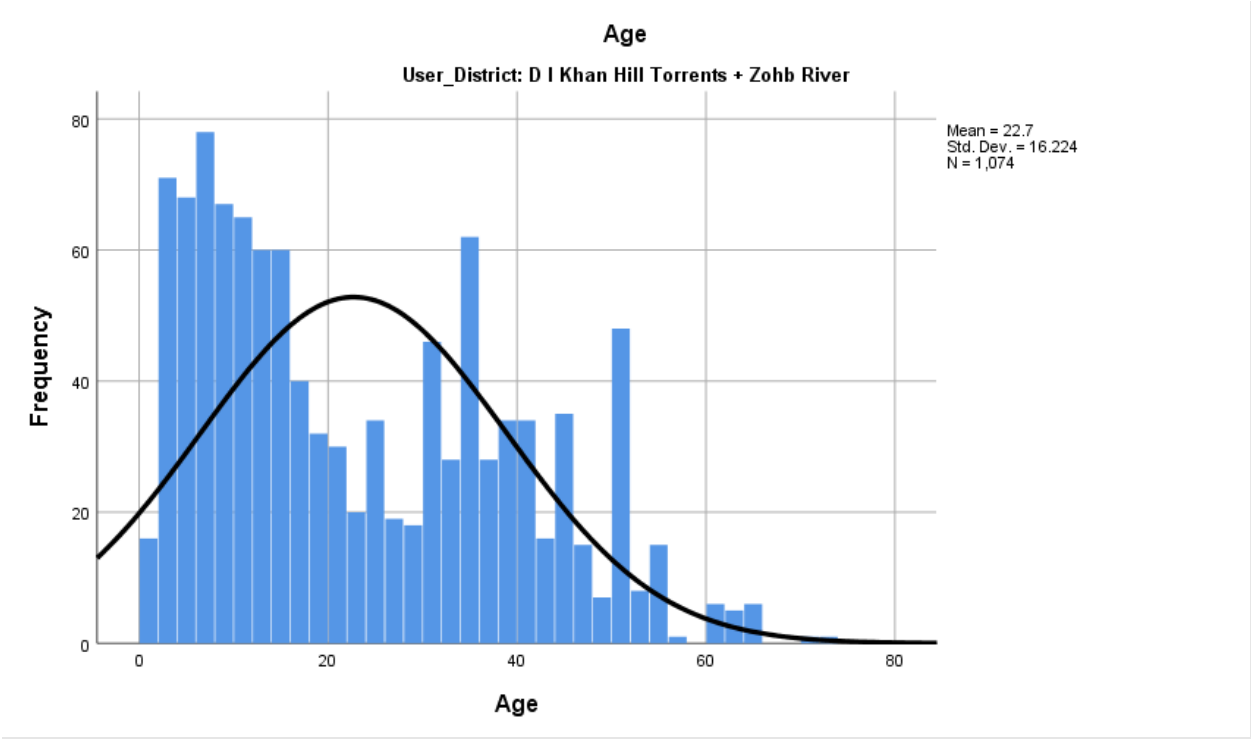
Figure 18



2.6.2 D. I Khan Hill Torrents + Zhob River

This graph provides age-based segregation of the community. With a mean age of 22.7 years, which is the similar to overall average age of 22.86. The calculation shows that a significant number of the people are younger than 40 years

Figure 19



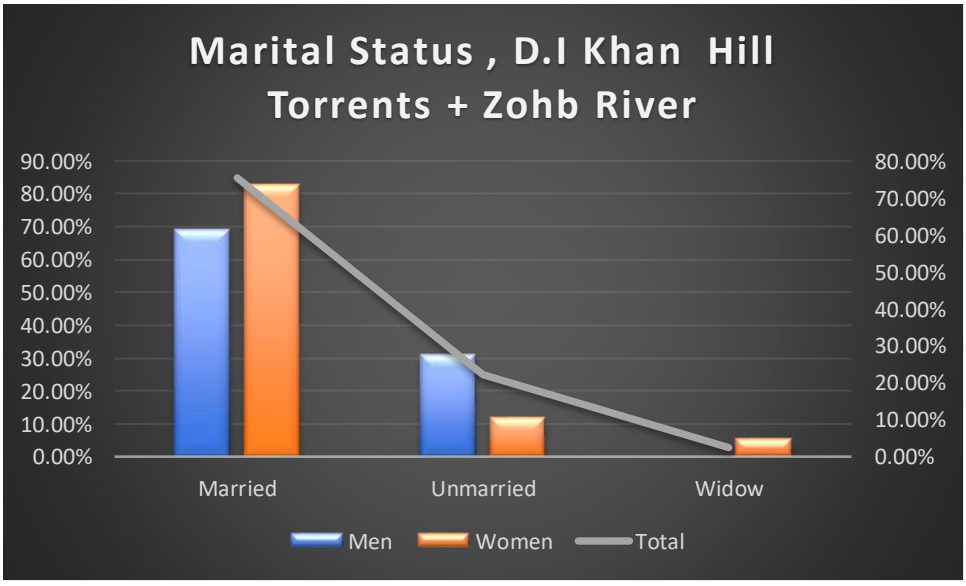


Figure 20

The figure above maps the higher trend of early marriage amongst the inhabitants (male & female) of the project area. Almost 80 percent of all women aged 16+ are married which is indication of early marriages.

The following figure indicates that a significant percentage of both boys and girls aged 4-16 are uneducated, however, gender disparity in terms of educational attainments is evident. This trend is similar to the overall tendency in Pakistan.

Figure 21

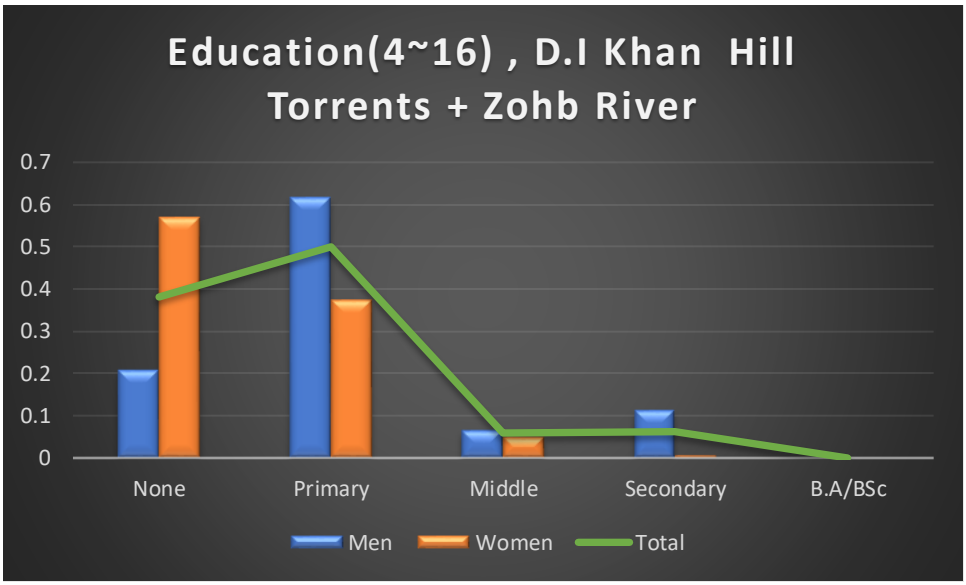
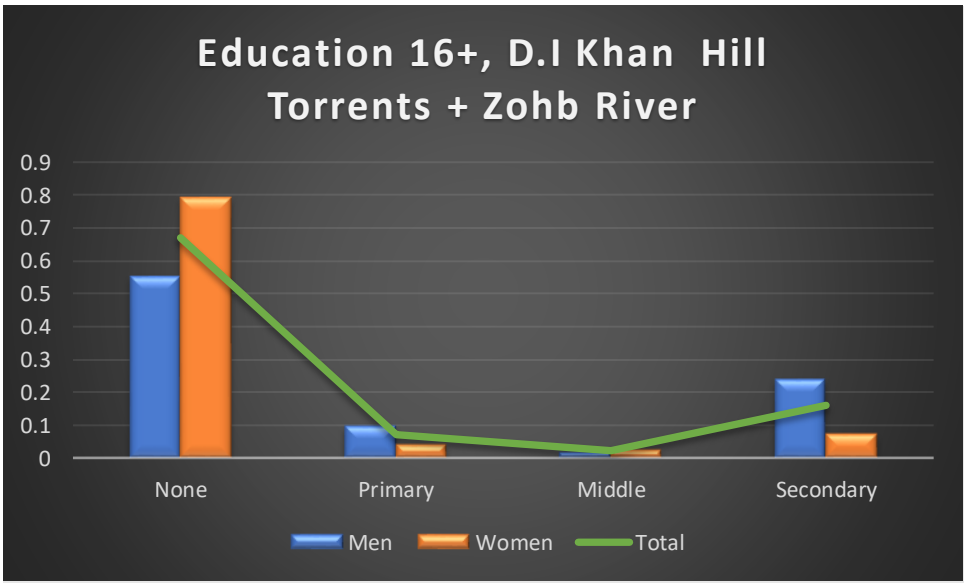


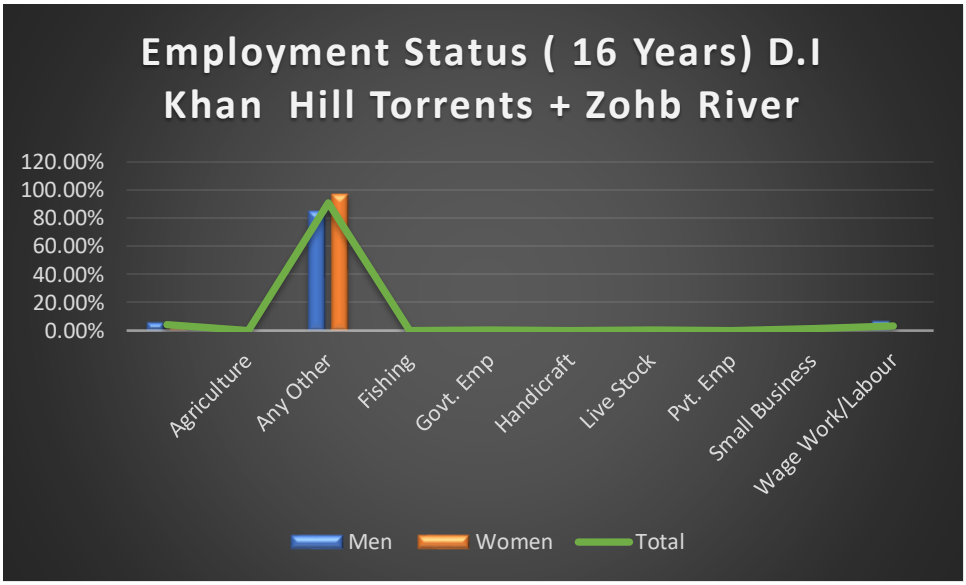
Figure 22



The aforementioned figure reflects the educational statistics of adult males and females. The chart shows low levels of education among both sexes. Almost 80 percent of females are uneducated, and the ratio of uneducated males is around 58 percent.

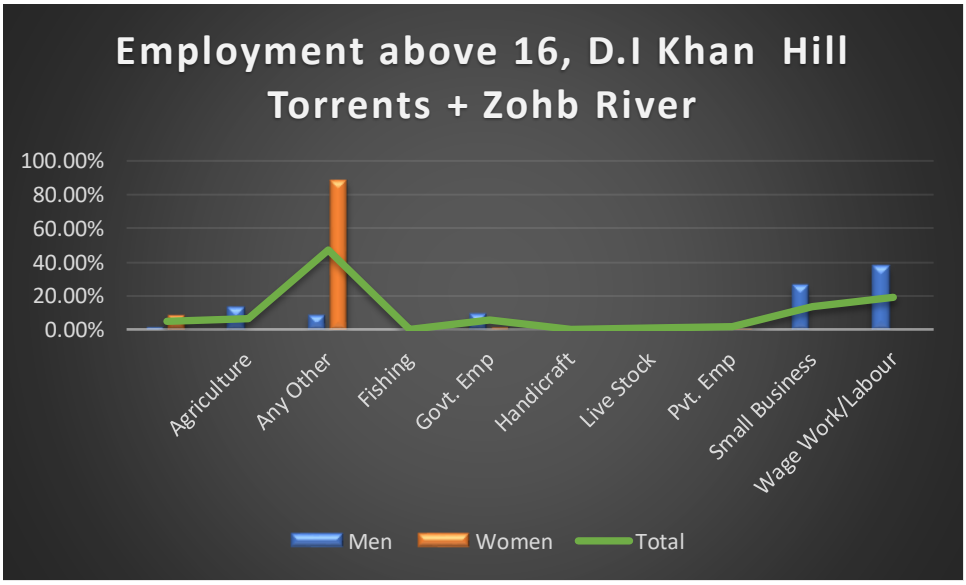
The pattern of educational attainment of the community is reflective of their employment status of community members aged 16 and below. The majority of boys and girls are unemployed.

Figure 23



The survey reveals that amongst the adult male community members, major sources of employment include labor work, government jobs, and small businesses. Almost an equal number of male community members are engaged in agriculture. The male unemployment rate is 20 percent, whereas 80 percent of the females are unemployed. Women are mostly engaged in the fishing industry.

Figure 24



The figure below explains the gender disaggregated family expenditure on various goods and services. There is hardly any expenses by the females owing to customs and traditions. But males' expenditure is mostly concentrated in food, health, education, fuel, water, and other areas.

Figure 25

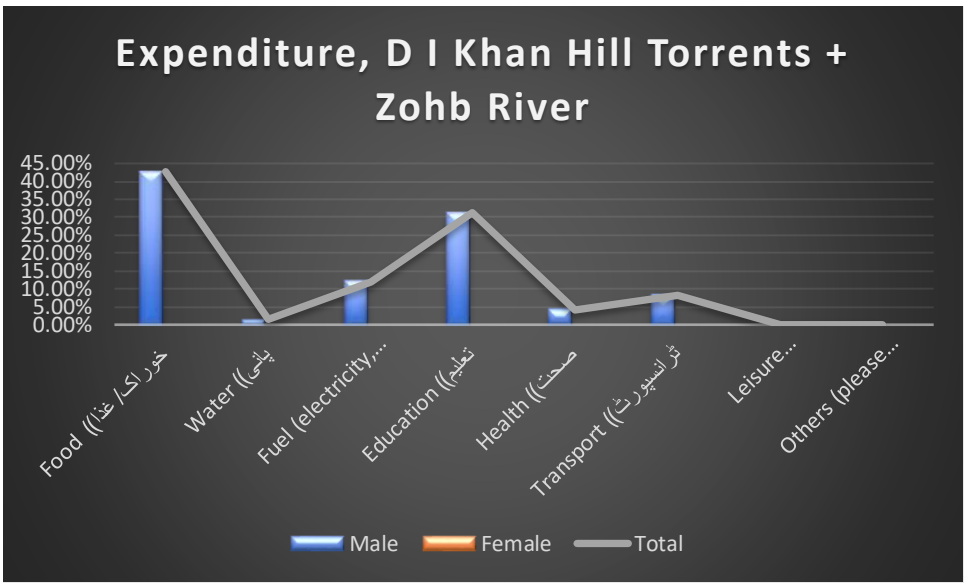
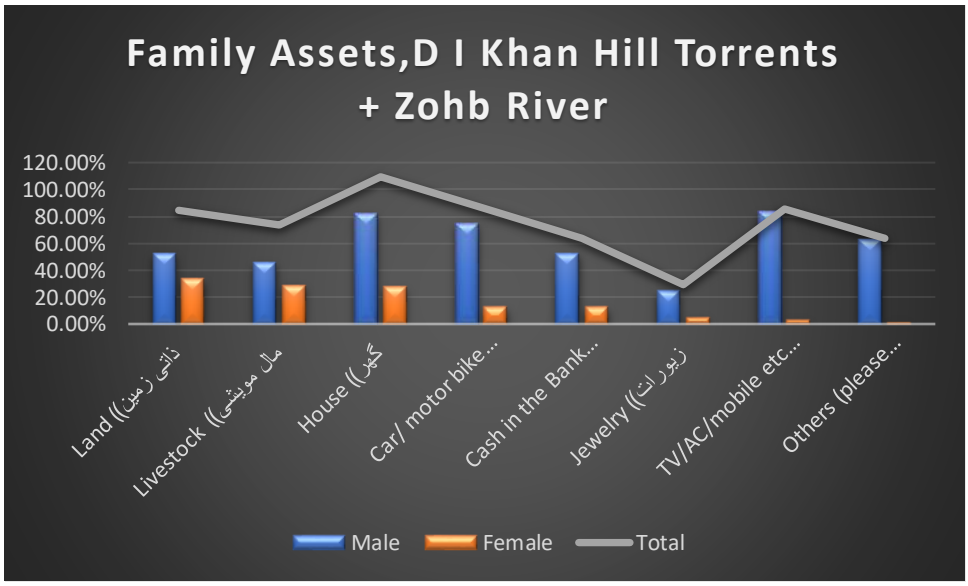


Figure26

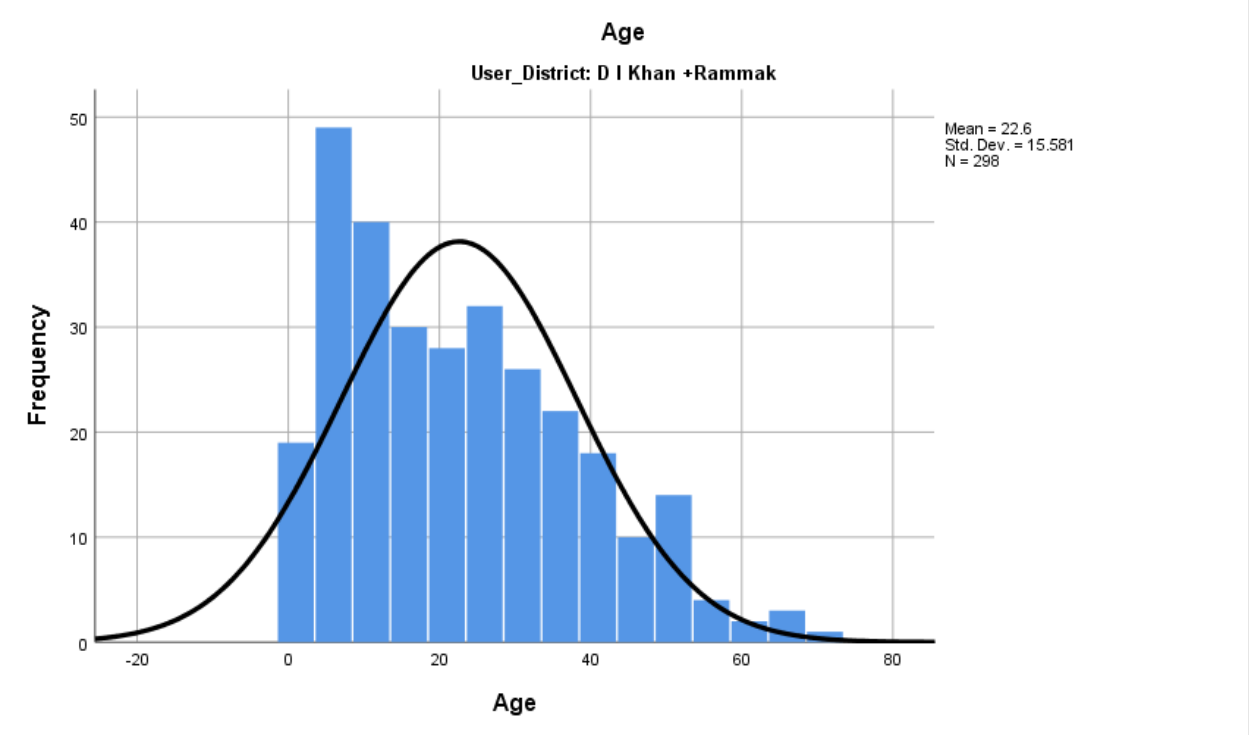


The graph presents the gender disaggregated data regarding the possession of different types of assets. The graph reveals that females mainly maintain land and livestock, whereas males own all the remaining assets. The graph shows that houses, cars, and land is the most common asset that men hold which is followed by jewelry, and other assets.

2.6.3 D. I Khan Ramak

The graph in this section provides age-based segregation of the community. With a mean age of 22.6 years, which is almost the same as the overall average age. The calculation shows that a significant number of the people are younger than 30 years.

Figure2712



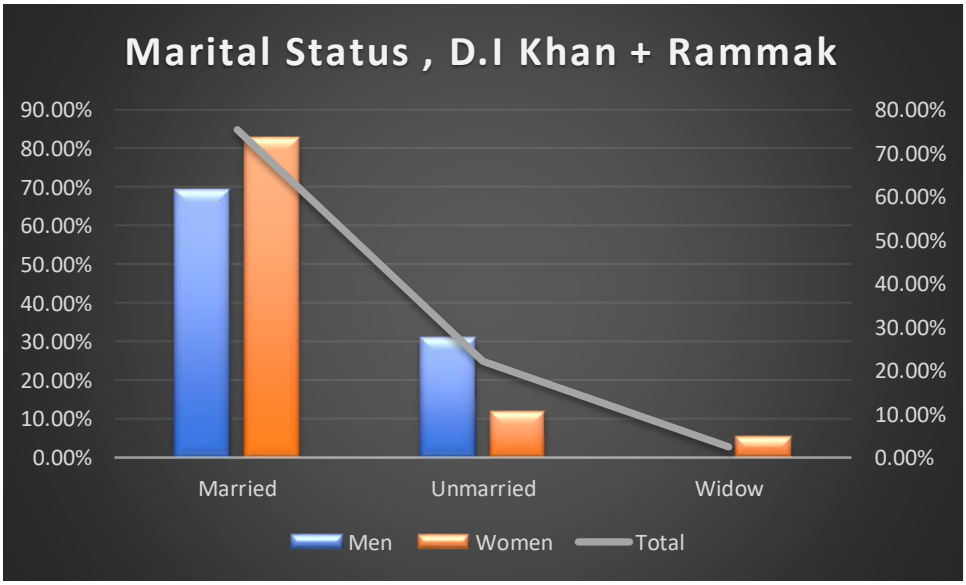


Figure28

The figure above maps the higher trend of early marriage amongst the inhabitants (male & female) of the project area. Almost 80 percent of all women aged 16+ are married which is indication of early marriages.

Whereas, following the figure indicates that a significant percentage of both boys and girls aged 4-16 are uneducated, however, gender disparity in terms of educational attainments is evident. This trend is similar to the overall tendency in Pakistan.

Figure29

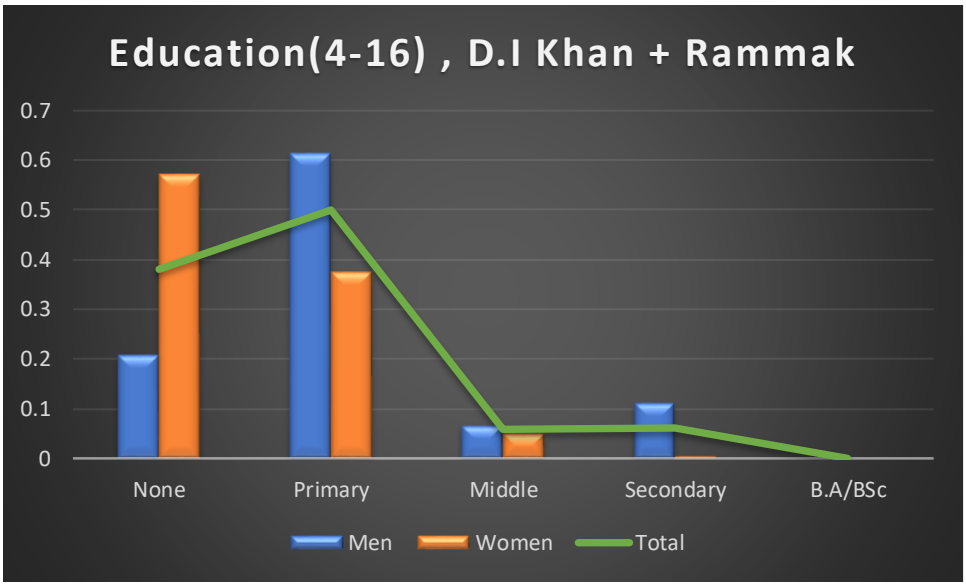
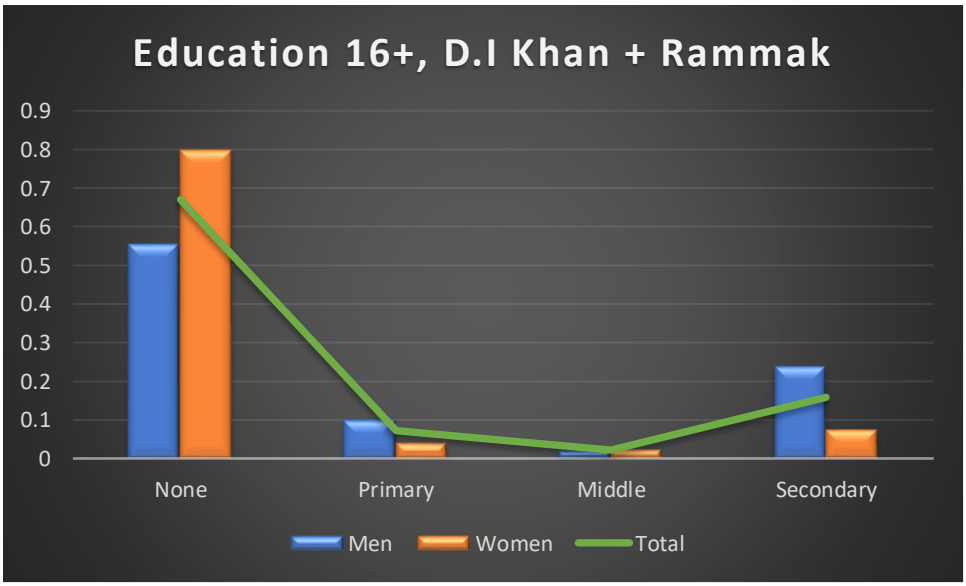


Figure30



The aforementioned figure reflects the educational statistics of adult male and females. The chart shows low levels of education among both sexes. Almost 80 percent of females are uneducated, and the ratio of uneducated males is around 55 percent.

The pattern of educational attainment of the community is reflective of their employment status of community members aged 16 and below. Majority of boys and girls are unemployed as shown in the following graph.

Figure 31

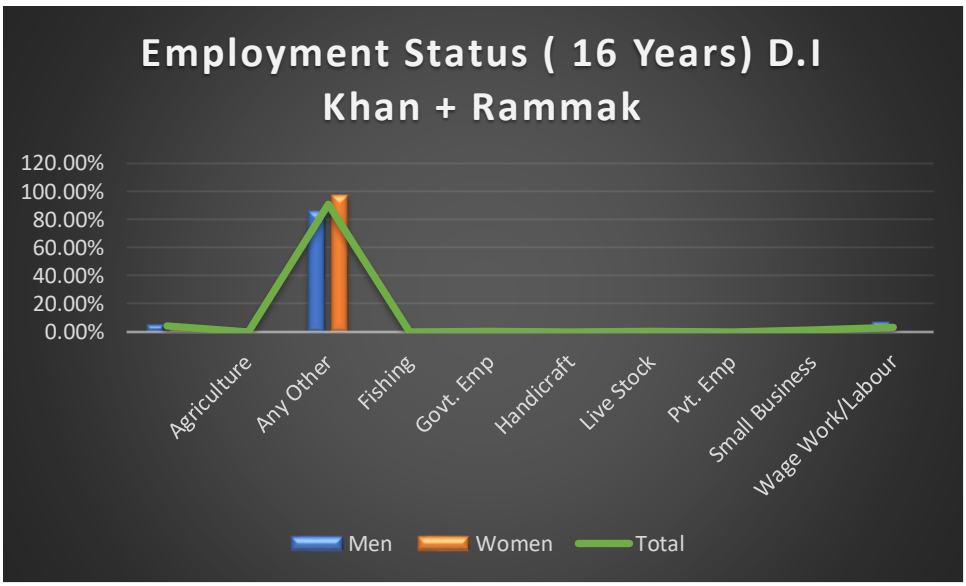
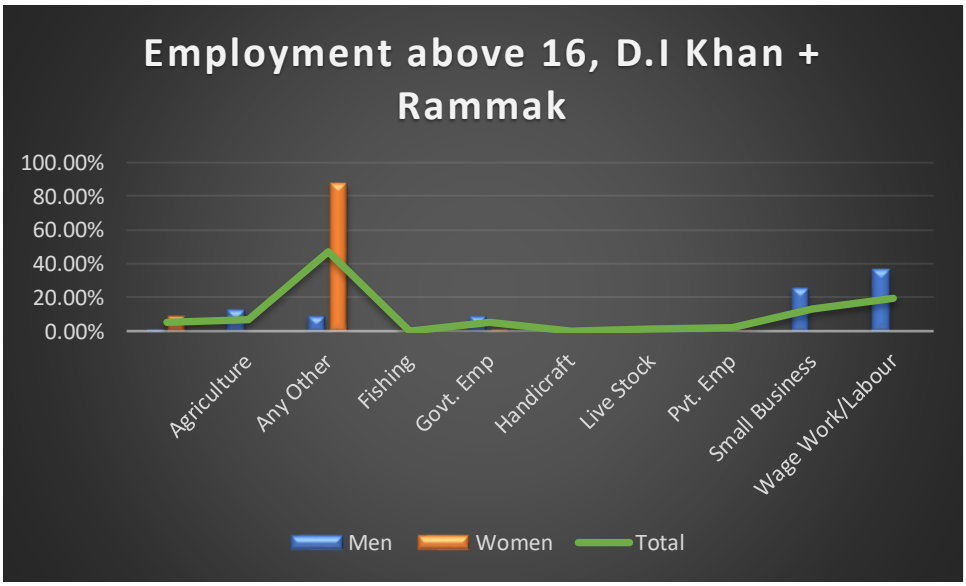


Figure 32



The figure below explains the gender disaggregated family expenditure on various goods and services. Females' expenditure is mostly concentrated in house, livestock, and land, whereas men's major spending includes food and leisure items.

Figure 33

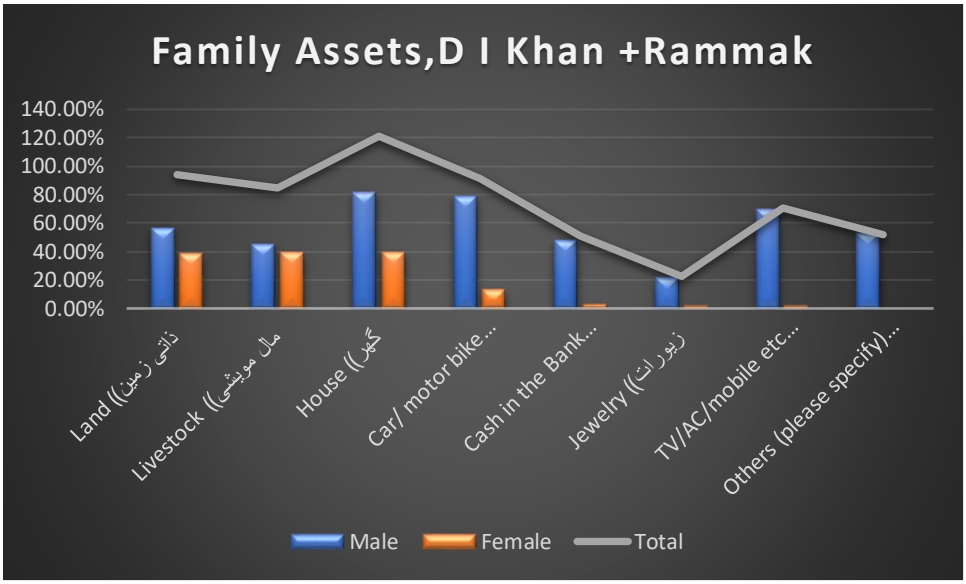


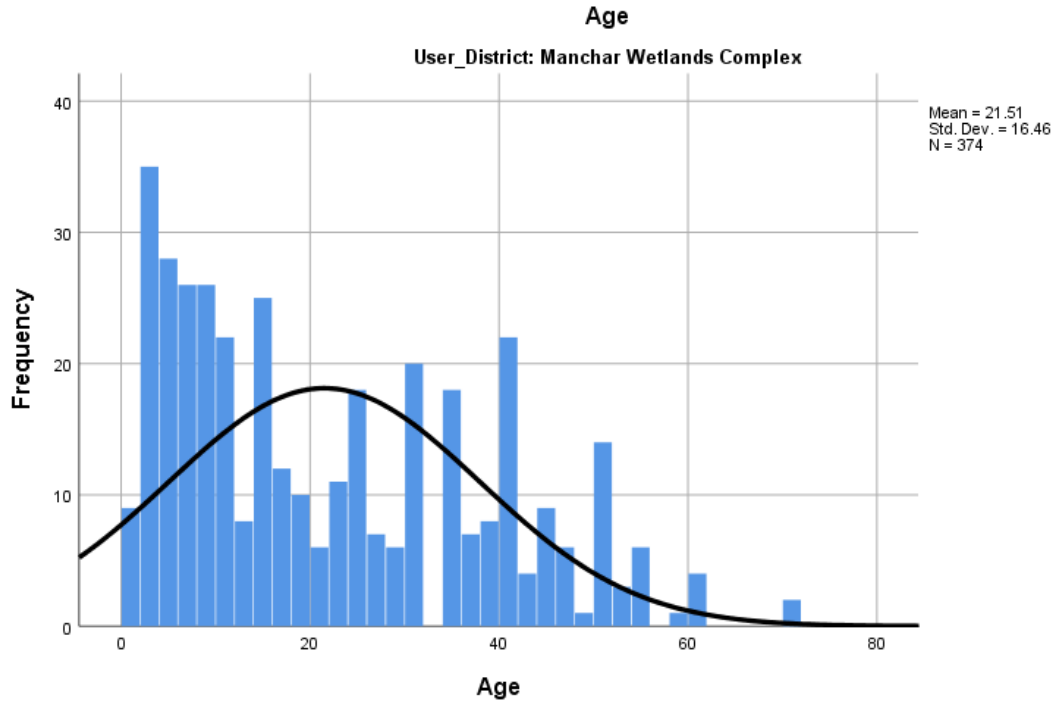
Figure 34

The graph presents the gender segregated data regarding the possession of different types of assets. The graph reveals that females mainly maintain land, livestock, and houses, whereas males own all the remaining assets.

2.6.5 Manchar Wetlands Complex

Following graph provides age-based segregation of the community. With a mean age of 21.51 years, which is slightly lower than the overall mean age of 22.86. The calculation shows that a significant number of people are younger than 40 years.

Figure 42



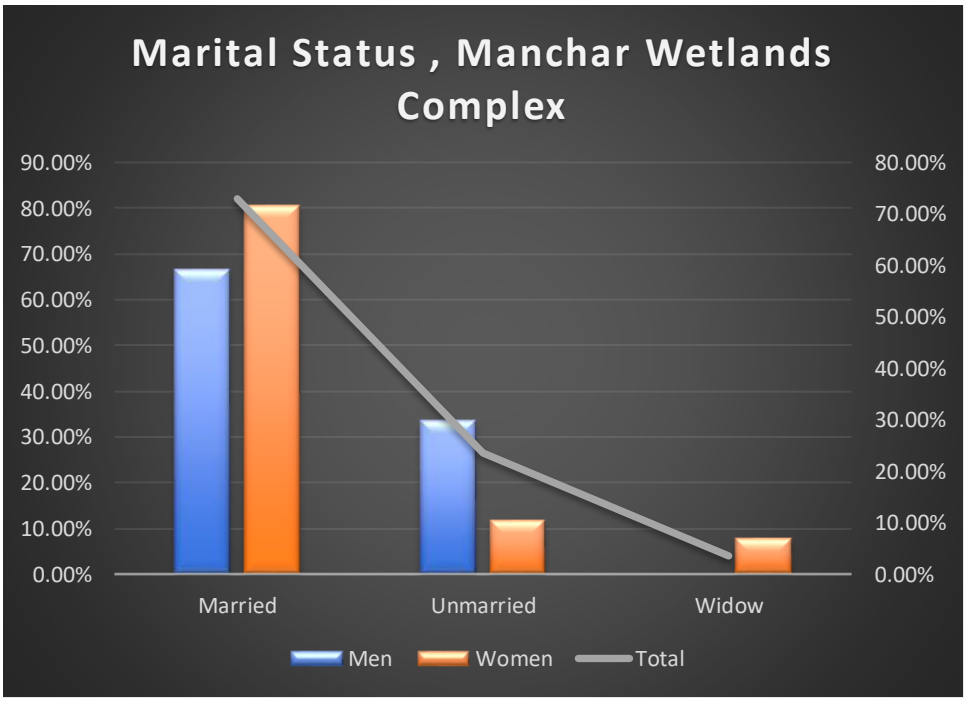
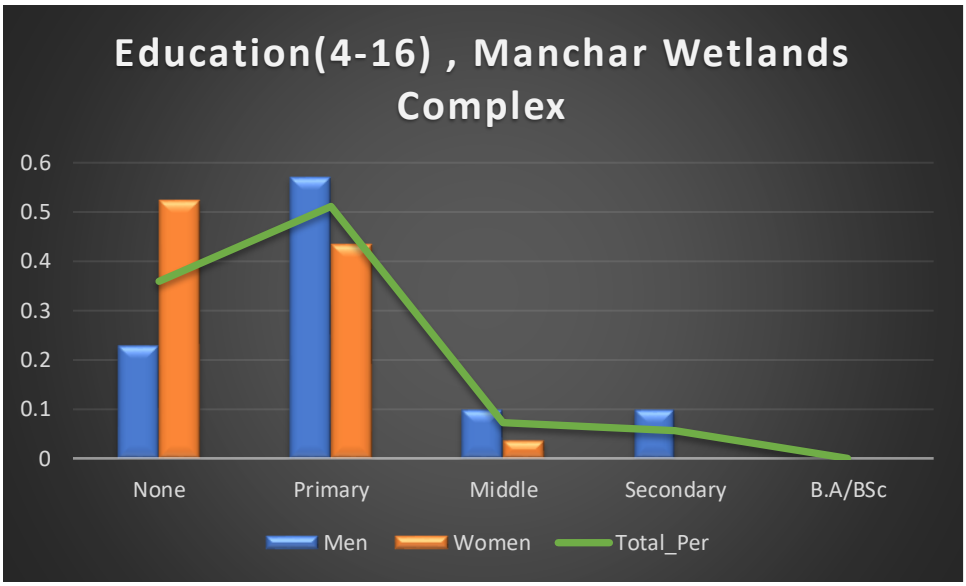


Figure 43

The figure above maps the higher trend of early marriage amongst the inhabitants (male & female) of the project area. Almost 80 percent of all women aged 16+ are married which is indication of early marriages.

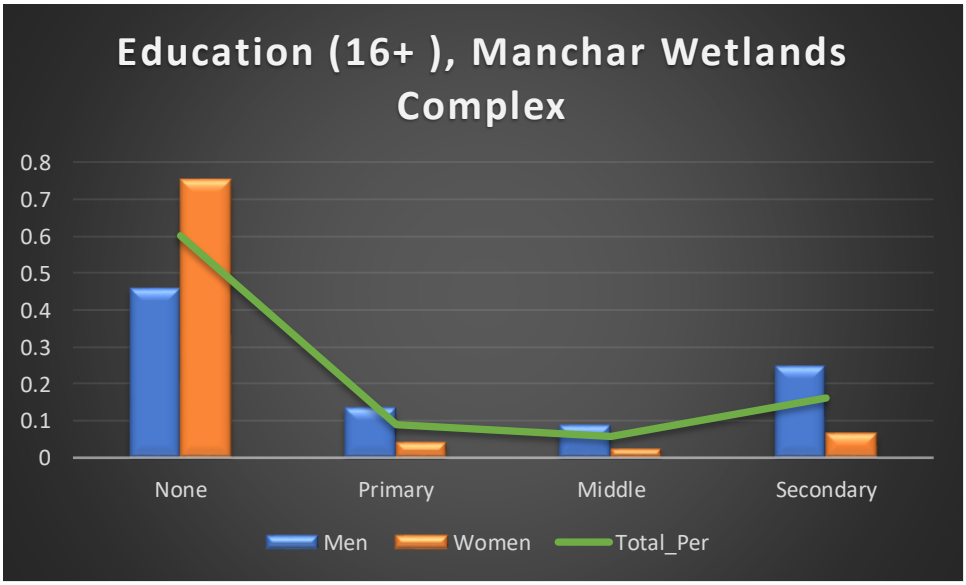
The following figure indicates that a significant percentage of both boys and girls aged 4-16 are uneducated, however gender disparity in terms of educational attainments is evident. This trend is similar to the overall tendency.

Figure 44



The following figure reflects the educational statistics of adult male and females. The chart shows low levels of education among both sexes. Almost 75 percent of females are uneducated, and the ratio of uneducated males is around 50 percent.

Figure 45



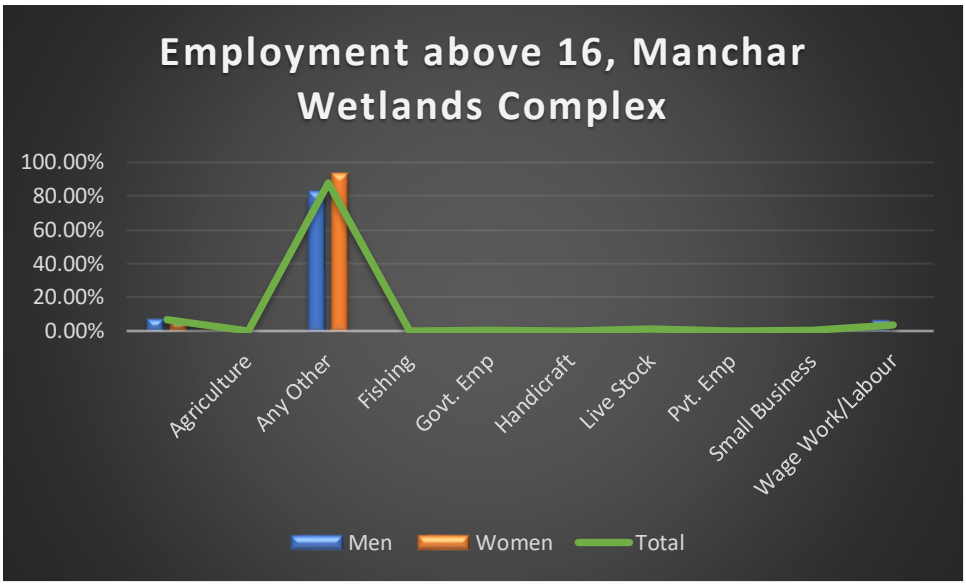


Figure 46

The pattern of educational attainment of the community is reflective of their employment status of community members aged 16- and younger. Majority of boys and girls are unemployed as displayed in the aforementioned graph.

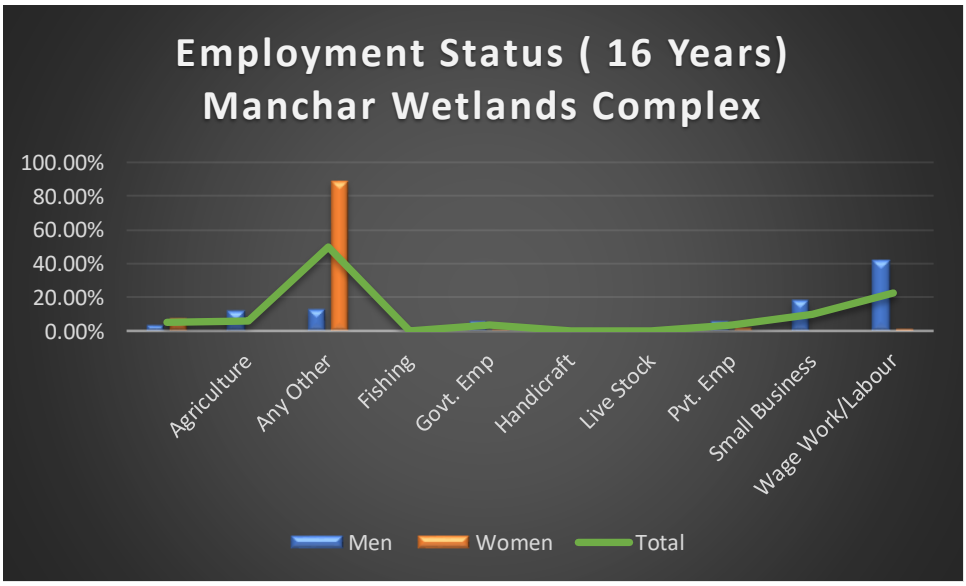
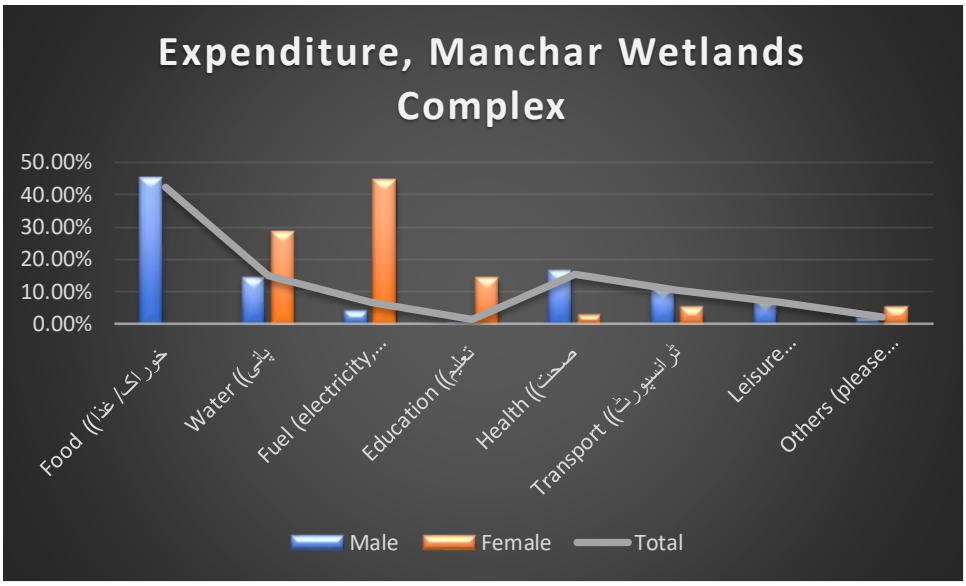


Figure 47

The above figure explains the gender disaggregated family expenditure on various goods and services. Females' expenditure is mostly concentrated in health, education, fuel, water, and other areas. Whereas men's major spending includes food, health, and leisure items.

Figure 48



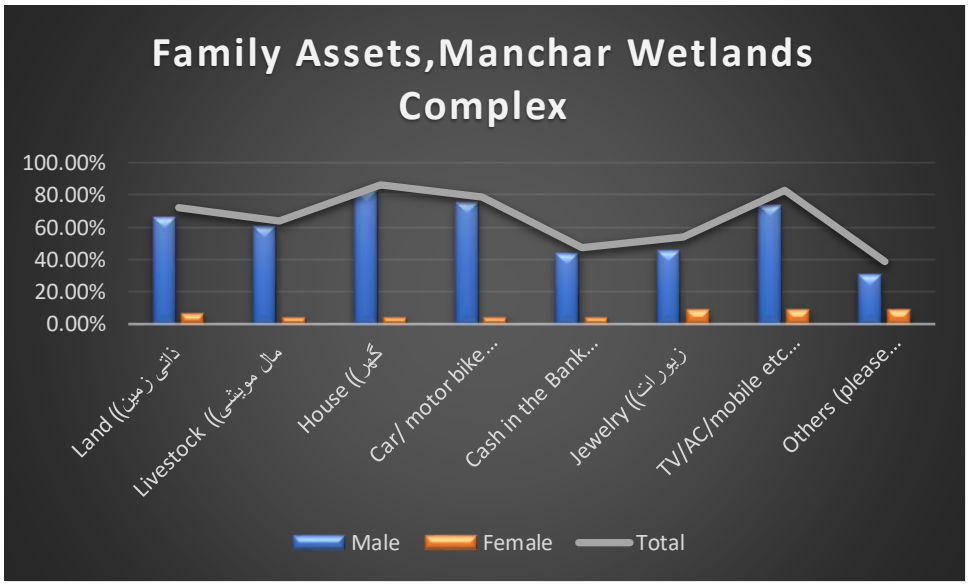


Figure 49

The graph presents the gender disaggregated data regarding the possession of different types of assets. The graph reveals it is a male dominated society, and males own all the assets. The graph shows that houses and tv is the most common asset that men hold which is followed by land, jewelry, and other assets.

2.7 Indigenous Peoples and Vulnerable Groups

(a) Overview of Indigenous Peoples Situation

The Government of Pakistan does not recognize Indigenous peoples but defines them as tribal. The only international convention ratified by the government is the ILO Convention 107 on Indigenous and Tribal Populations in 1960. Until this date, Pakistan has not endorsed the ILO Convention 169 on Indigenous and tribal peoples. In 2007, the country did vote for the adoption of the United Nations Declaration on the Rights of Indigenous Peoples.

The last census of 2017, has identified the main ethnic groups, comprising Punjabis, Pashtuns, Sindhis, Seraiki, Muhajirs, Balochis and others. A further introspection revealed "others", which included the Jhabels, Kehal, Mores Kochi, Rabari, Baluch, Bakarwal, Jogi, Kabootra, Sanyasi Kalash, and Kutanas. The main groups of tribal peoples in the country are the tribal fishing peoples, the pastoral groups of the Middle Indus Valley, the Baloch tribes, fisherfolk of coastal areas, tribal peoples of Sindh, tribal peoples of Gilgit-Baltistan, tribal peoples of Chitral Valley, tribal peoples of Pothohar Region, and the tribal peoples of North-west Frontier Province (NWFP) (renamed to Khyber Pakhtunkhwa) and Ex-Federally Administered Tribal Areas (FATA) (now referred as the Newly Merged Districts).

The field visits to some of the sites where IPs are residing identified several problems and issues faced by Indigenous and tribal peoples. This includes poverty, landlessness, inadequate livelihood skills and opportunities, threatened culture, environmental degradation, gender inequalities, lack of access to basic government services, shortage of water, lack of sanitation, poor health, low educational levels and illiteracy, lack of infrastructure and lack of participation in decision-making processes. Their vulnerability increases when development is imposed on them. Former developmental activities including dams, commercial agricultural plantations, profitable logging, and large-scale mines threaten tribal groups and Indigenous peoples with loss of their rights over their lands and natural resources, which can lead to their ultimate extinction.

There are a number of organizations in Pakistan concentrating on the issues and challenges faced by the Indigenous and tribal peoples. The Pakistan Fisherfolk Forum is an alliance of the fishing peoples of coastal and inland fishing zones. The Task Force for Environment and Cultural Heritage (Teach) consists of academics, politicians and civil society on Indigenous culture and knowledge protection issues. International organizations indirectly addressing or providing spaces for Indigenous and tribal issues in their programmes are the United Nations Development Programme (UNDP), World Wildlife Fund (WWF), and International Union for Conservation of Nature (IUCN).

(b) IPs in project sites

Mohana or Mallah Community in Lake Manchar Area

Lake Manchar is the country's largest freshwater lake, and this is a source of livelihood for many communities in and around the lake. Nevertheless, if one travels from the eastern bank for about 20 minutes, they can easily reach a cluster of a few dozen boats anchored in the middle of the lake and home to the centuries old Mohana or Mallah community. According to locals, the population living in their traditional homeland has shrunk to only 450 people from 50,000 in less than three decades. These people are living on boats.

Figure 57



The population has declined primarily due to problems resulting from climate change and finances to health issues. Besides, the lake has become a dumping ground for industrial waste generated from upper parts of southern Sindh and a few areas of southwestern Balochistan. This has increased the environmental and health risk of the inhabitants, especially the Mohana community. Additionally, there used to be abundant fish stocks which have gradually shrunk due to industrial effluents, declining water levels due to low rainfall, and the construction of barrages and dams on the Indus River.

The Bagris in Chaker Lehri and adjacent Areas

Bagri is a nomadic tribe and are mainly Muslims. Although there has been a trend of permanent settlement in the last couple of years, the vast majority of them still live in slums along major highways, towns, and cities. They have small settlements in Quetta, Chaman, Kharan, Khuzdar, and other parts of Balochistan. Their exact number is not known. However, in Karachi, their settlements can be seen on Lyari and Malir rivers' banks, underpasses, and in various vacant plots. The lifestyle of the Bagris settled in the area from Sukkur to Daharki is slightly different from the rest. The majority of the community is engaged in agriculture; however, their seasonal migration is based on the crops, their intensity, and types of crops.

The Kehal and Mores of D I Khan

The tribal fishing peoples, Kehal and Mors, inhabit the Middle Indus Basin between two barrages, the Chashma Barrage, and the Taunsa Barrage. There is no exact information about their population size. They estimate their own population to be between 40,000 and 45,000[20] families Instead of strictly following one single religion, the Kehal and Mors have a flexible system of beliefs. In the recent past many have converted to Islam (Shafi Sect).

[20] Punjab District Gazetteers, Volume xxxiv – A, Muzaffargarh District, 1929, p-14

Kehal and Mors live by weaving baskets and birdcages, fishing and providing seasonal harvesting labor. Fishing has been a source of food and livelihoods for the tribal peoples of the River Indus. This used to provide 60% of their food needs, and they remained free of any administrative control. The local communities also confirmed these historical facts. They had a well-defined system of barter trade of fish with neighboring communities. Over the decades, however, construction of dams, barrages, and canals after the Indus Basin Treaty in 1960 halted the flow of fish into the traditional Indus streams and lakes.

As noted above, the government of Pakistan does not legally recognize indigenous peoples. However, Pakistan is home to multiple local communities which either self-identify as indigenous or have the outward characteristics of being indigenous. Hence, and for the purpose of ensuring their participation in project activities, and to ensure that their informal rights to land and other natural resources on which they are dependent for their food, fodder, and livelihoods is protected, WWF-Pakistan works with a broader definition of local communities. This essentially seeks to gauge if a local community has dependencies on the natural resources we seek to work with, and whether our work could lead to a disruption in the use and access to the same. If this is the case, then we treat that community with the same processes as international standards for working with indigenous peoples (including FPIC), even if in the Pakistan context, and perhaps the international context, they fall under the broader definition of local community.

2.8. Gender

A detailed Gender Assessment was conducted on gender-related issues in the project sites to understand the gender situation in Pakistan in general and more specifically in the project sites. To ensure gender is given due consideration and is integrated into the design and implementation phases of the project, a Gender Action Plan has been developed for the Project. Following are the key findings and summary of the Gender Assessment and Gender Action Plan.

Pakistan is a developing country and is among those countries that are most vulnerable to the risks associated with climate change. Gender situation of the country is not so good. Pakistan is a patriarchal society; men are consistently given favor where women are given an inferior status before or at birth, which leads to their lower human development and more unfavorable socioeconomic circumstances, especially in rural areas. The position and status of women in Pakistan have a checkered history. Over the last three decades the status of women has progressed, remained static, regressed, and constantly changes depending on many factors that are beyond women's control. Pakistan is a signatory country of International Conventions and Treaties. Numerous laws have been promulgated ensuring women rights and protection, but their implementation and lack of political will renders them ineffective. Therefore, women have generally not benefitted from these declarations.

Government officials were also interviewed to assess the gender condition of the areas. So the Government officials mentioned a list of diseases associated with water pollution: diarrhea, cholera, hepatitis, jaundice, typhoid, skin diseases and other water borne diseases. While destruction of crops, reduction in fish catch and decrease in crop production, reduction of land fertility and economic loss are mentioned as economic risks associated with water reduction and pollution. Decline in crop production, reduce land fertility, migration of communities and livelihoods shifting from agriculture and fishing to

manual labour in nearby cities, are listed as impact of water pollution in Balochistan and Sindh Government officials talked of economic crises occurring during floods and drought in the project sites.

In the focus group discussions, the impact of climate change was explored and it was reported that there are changes in weather patterns and that different diseases including heart diseases, skin and stomach diseases are more prevalent now in the communities especially among women and children.

It was also explored from the household (HH) surveys that in the project area, women literacy level is low as compared to men. Women grow food for their families and have a role in some part of the tasks involved in field crops and livestock management. However, women generally do not earn wages or cash incomes from these or other tasks that they perform. They also have limited decision-making power over natural and management resources.

There is no separate report or data sets under the title SEAH were found for Pakistan. Sexual Exploitation, Abuse and Harassment (SEAH) are subsumed under the laws and terms of Gender Based Violence (GBV), 'honor killing' and 'domestic abuse'. The assessment showed that the situation in Pakistan regarding GBV and SEAH is alarming, and it exists at different levels and at varying degrees in all provinces. The focus group discussions have revealed the existence of various forms of gender-based violence in the project's field sites. It can also be assumed that within the domain of gender-based violence, sexual exploitation, abuse, and harassment also exist.

Gender Action Plan: The results obtained through the gender assessment and the stakeholder consultations during project design and development have been used to produce a detailed gender action plan for the Recharge Pakistan Project. The gender action plan focuses on the following themes within each of the three project components:

- Gender Action Plan focuses on promoting gender inclusiveness in the EbA and design and implementation of project activities. It focuses on strengthening and building the capacity and resilience of the vulnerable communities towards climate change.
- Gender Action plan also ensures that gender mainstreaming processes actively involve men and women at different levels of management, who are trained in the subject, including how to recognize and address GBV and SEAH through the GRM reporting mechanism.
- Its focuses on strengthening institutional capacity of local Government departments at district level and for extension services in project sites for gender orientation, sensitization and mainstreaming for planning and implementing EbA.
- Gender Action Plan also include awareness raising campaigns, providing capacity building and various skills such as leadership and entrepreneurship, of the vulnerable groups.

The Gender Specialist (Manager, Gender) based at the Project Management Unit (PMU) will lead the implementation of the GAP. At Site Implementation Units (SIUs) social mobilizers have been added to the team who will have representation of male and female staff to facilitate implementation of GAP. Additionally, ESSF staff at both PMU and SIU will facilitate and play a key role in implementation of gender specific actions. Dedicated roles of Coordinator, Gender Empowerment and Livelihood Development have

been budgeted to ensure a focused approach to implementation of GAP. A multitier approach of staffing arrangements ensures a cohesive approach across all project activities and offers maximum interaction with local communities and key stakeholders at national and sub-national level.

3. ENVIRONMENT AND SOCIAL POLICY, REGULATIONS AND GUIDELINES

This chapter first outlines the laws and regulations of Pakistan and then WWF's ESSF and SIPP that are applicable to the project, and then discusses gaps between Pakistan's laws and regulations and the SIPP. **For the purposes of the 'Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management Project implementation, the principles and procedures of the WWF ESSF and SIPP shall prevail in all cases of discrepancies.**

3.1 Pakistan's Policies, Laws, Regulations Guidelines

Short description of the types of laws, regulations and policies related to the implementation of environmental and social safeguards and the project activities that will be covered in this section. For a full list of relevant Pakistani laws and policies, please refer to Appendix 2 of this ESMF.

(a) Laws on Environmental Protection and Biodiversity Conservation

The first environmental act of the country was enacted in 1997, which provides protection, conservation, rehabilitation, and improvement of the environment. It prevents and controls pollution and promotes sustainable development. However, after the 18th amendment to the 1973 constitution, several subjects including Environmental Protection and Biodiversity Conservation were developed for the provinces. Since 2012, Environmental Protection and Biodiversity Conservation are Provincial subjects under the management of Provincial Oversight Committees (POCs), however, there are no major differences between the provincial environmental policies and most of the rules and regulations are identical. Post 18th amendment provincial legislation includes Sindh Environmental Protection Act, 2013; Balochistan Environmental Protection Act, 2014; and Khyber Pakhtunkhwa Environmental Protection Act, 2014.

These federal and provincial legislation broadly covers all the aspects of Environmental Protection and Biodiversity Conservation. Additionally, Pakistan was among 150 countries that signed the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit and ratified it in 1994.

(b) Specific Policies related to project focal areas including water, protected areas, fishing, agriculture and wildlife.

i. **Multilevel Water Laws of Pakistan**

Water is a provincial subject according to the 18th amendment in the 1973 Constitution of Pakistan (Constitution 1973: Chap. 3, Art. 155). However, federal government use its authority to ensure equity and access among provinces (National Water Policy of Pakistan 2018). Water sharing among provinces is also regulated and administered by the constitutional and parliamentary bodies e.g., the Council of Common Interests (CCI) and Parliamentary Committee on Water Resources (Ranjan 2012a; Sharif 2010). The Water and Power Development Authority (WAPDA) has legitimate authority to conduct water development schemes (UNDP 2016; WAPDA Act 1958: Art. 8). Similarly, the Indus River System Authority (IRSA) regulate water sharing among provinces under the 1991 Water Apportionment Accord (Anwar and Bhatti 2017; Ranjan 2012b). IRSA contained one representative from each of the four provinces and a federal member. Furthermore, the chairman of IRSA is selected on rotational basis from each province

(IRSA 1992: Art. 2/1). At the sub-national levels in Pakistan, provincial irrigation departments and the provincial Environment Protection Agencies (EPA)[8,9] provide the core regulatory framework (Anwar and Bhatti 2017; Sharif 2010). Similarly, at local level, the local government as well as Water and Sanitation Agencies (WASAs) regulate the provision of clean drinking water and sewage disposal (Khan and Javed 2007).

Water is governed through a mix of informal and formal mechanisms in Pakistan (FoDP 2012; Qureshi 2002). The informal practices date back to over 9000 years, all of which have a unique link with the Indus River (Alam et al. 2007) such as: Balochistan 's Mehergarh (9000-7000 BCE) (Aamir 2015; Notezai 2017); Khyber Pakhtunkhwa 's Rehman Dheri (the Pre-Harappan 3300 BCE) (Jan et al. 2008; Khan et al. 2002), Punjab 's Harappa (3000 BC) and Sindh 's Mohenjo-Daro (2500 BCE) (Angelakis and Rose 2014; Fuller 2001; Possehl 2002). It was discovered that ages ago before the Pharaohs or the Mesopotamians, the earlier settlers of Mehergarh were using flood water to grow crops. These settlers had professionally trained animals for farming (Grewal 2005; Khan et al. 2014). The remains of the 5000 years old (3300 BCE) large sand and mud dams were also revealed in the Khuzdar district in Baluchistan (Manuel et al. 2018; Shaffer and Thapar 1992). These practices were improved by the Indus Civilization of Mohenjo-Daro (in Sindh Province) and Harappa (in Punjab 's Province) in 3000 BCE which projected that a composite society existed at that time which sustained these sand and mud dams (Khan et al. 2014; Manuel et al. 2018). The civilization encouraged water management, water supply, sanitation services, washing platforms and a dedicated waste disposal system (Angelakis and Rose 2014; Cullet and Gupta 2009).

Similarly, in the Khyber Pakhtunkhwa customary irrigation practices are as old as 330 BCE (Ahmed 2000; Bhutta and Smedema 2007; Mehari et al. 2011). The extensive mysterious *gabarbands* that diverted water from the dry rivers in that period can still be found in various parts of Sindh and Baluchistan provinces (e.g., Larkana, Dadu and Las Bela districts) (Khan et al. 2014). The adoption and pattern of formal rules in Pakistan are drawn from the earlier civilization of the Indus, the Aryans, the Arabs, the Moghuls and more recently, the British (Badruddin 2012; McIntosh 2018). The Islamic Principles are founded on equitable sharing and the recognition of collective control over water (Abdurrahman 2000; Cullet and Gupta 2009). The codification of water-related rules and practices in Pakistan were first started by the British Colonial Administration in 1860 from the Pakistan Penal Code to prevent contamination and preserve ecosystems. This was followed by the codification of customary irrigation practices – *'warabandi* 'in 1873 to promote cooperation and ensure equitable and efficient utilization of shared water resources among farmers.

All these rules and practices were recorded in registers called the 'Kuliyat-e-Abpashi (set of guidelines for diverting flood flows) 'and 'Riwajat-e-Abpashi (set of customary practices for diverting flood water)' (Khan et al. 2014). The succeeding British Colonial Rules imposed firm compliance to accomplish management of water shortages (Cullet and Gupta 2009; Mehsud 2015). These were introduced in all the hill torrent areas. After the formation of Pakistan, the rules and procedures created by the British Colonial Administration were revised from time to time to meet explicit commitments, but the basic structure of the original rules has persisted (Jurrie ns et al. 1996; Khan et al. 2014; Subrahmanyam 2006)[21].

[21] See Annexur-2 for further details

ii. Multilevel Environmental Laws and Regulations of Pakistan

Environmental Laws and Regulations provide a solid basis for the protection of the environment. A co-related but diverse set of regulatory systems, strongly influenced by environmental legal principles, focus on the administration of specific natural resources, such as water, forests, minerals, or fisheries. Environmental concerns were fostered more by the developed countries after noticing the devastating effects of colonial powers stripping off natural resources from their colonies, but soon environmental legislations started gaining momentum in developing countries too including Pakistan, leading to some remarkable legislation here (Usmani 2002).

The first Pakistani environmental laws were enacted during late 1950s and early 1960s (Siddiqui 2000) some of the most noteworthy legislation includes The Pakistan Environmental Protection Act 1997. Pakistan's Environmental Policy is based on participatory approach to achieving objectives of sustainable development through legally, administratively, and technically sound institutions. The Federal Environment Ministry was established in Pakistan in 1975 as follow up a Stockholm Declaration of 1972. The Ministry was responsible for promulgation of the environmental Protection Ordinance of Pakistan in 1983. It was the first comprehensive legislation prepared in the country. The main objective of Ordinance 1983 was to establish institutions i.e., to establish Federal and Provincial Environmental Protection agencies and Pakistan Environmental Protection Council (PEPC). In 1992 Pakistan attended the Earth Summit in Brazil (Rio-De Janeiro) and thereafter became party to various international conventions and protocols. This political commitment augmented the environmental process in the country. Same year, Pakistan prepared National Conservation Strategy (NCS), provides a broad framework for addressing environmental concerns in the country. In 1993 Environmental Quality Standards (NEQS) were designed. The Pakistan Environmental Protection Act 1997 was passed by the National Assembly of Pakistan on September 3, 1997, and by the Senate of Pakistan on November 7, 1997. The Act received the assent of the President of Pakistan on December 3, 1997, and was enacted on 6th December 1997, repealing the Pakistan Environmental Protection Ordinance, 1983.

Pakistan is divided into several blocks for exploration of natural resources and conservation of them according to the respective geographical areas and there are laws developed for those areas catering to the specified needs. A remarkable piece of provincial legislation called The Sindh Wildlife Protection Ordinance 1972 is one of them. this Ordinance provides a list of all protected animals in the province, imposing a complete ban on hunting of protected animals and a restriction on free hunting of wild animals except under a permit and in accordance with the Ordinance (Sections 7(i) and 7(ii)), The Sindh Wildlife Protection Ordinance 1972, Pakistan). There are significant other ordinances developed for the conservation of wildlife, such as Baluchistan (Wildlife Protection, Preservation, Conservation and Management) Act, 2014, Wildlife (Protection, Preservation, Conservation and Management) Rules 1977. Enforced mainly by National Council for Conservation of Wildlife, assisted by provincial bodies namely the Sindh Wildlife Department, Baluchistan Forest and Wildlife Department, and Forestry, Environment and Wildlife - Government of Khyber Pakhtunkhwa.

Forests cover nearly a third of all land on Earth, providing vital organic infrastructure for some of the planet's densest, most diverse collections of life. It not only provides breeding grounds to flora and fauna

of our ecosystems but also contributes extensively to the clean air we breathe. Safeguarding of forests is not only indispensable to a country but is a matter of global concern. Pakistan has developed appreciable laws and regulations for conservation of forests including, The Forest Act 1927, The Cutting of Trees (Prohibition) Act, 1992, The Forest Act 1927 Amended 2016, The Sindh Forest Act 2012, The Baluchistan Forest Act, 2022, The Baluchistan Forest Regulation (Amendment) Act, 1974, The Forest Act 1927 - Government of Khyber Pakhtunkhwa and Khyber Pakhtunkhwa Forest ordinance, 2002. There is a forest department for maintenance and implementation of these laws and regulations on federal level and in each province.

With advancement in different fields of agriculture and medicine and increase in the research processes involving different biohazards and poisonous chemicals, the need for laws and regulations emerged. Strict guidelines were required to ensure the safety of everyone that could possibly be affected by the harmful effects. Pakistan legislative bodies articulated several regulations for ensuring biosafety practices in all fields, under the legislation of The Pakistan Biosafety Rules, 2005. For chemical weapons and nuclear and radiation safety, adherence to approved operating and maintenance procedures and regulations by legislative bodies is crucial, these rules were given under The Chemical Weapons Convention Implementation Ordinance, 2000, The Pakistan Nuclear Safety and Radiation Protection Regulations, 1990 and The Pakistan Nuclear Safety and Radiation Protection (Treatment of Food by Ionizing Radiation Regulations, 1996). Rules for hospital waste were also incorporated, namely, The Hospital Waste Management Rules, 2005, The Sindh Hospital Waste Management Rules, 2014, and Baluchistan Hospital Waste Management Rules 2020. For safe agricultural process, having maximum benefits from the crops and avoiding the hazardous effects of substandard pesticides, rules were introduced under the laws inclusive of, The Pakistan Agricultural Pesticides Act, 1972, The Agricultural Pesticides Ordinance, 1971 and The Agricultural Pesticides Rules, 1973 managed and implemented by the Ministry of Food and Agriculture on central level and Agriculture departments in every province.

With more industrialization and urbanization, the biggest drawback is pollution, which causes debilitating and fatal illnesses, creates harmful living conditions, and destroys ecosystems. It required immediate and effective regulations to contain the harmful effects, laws like, The Pollution Charge for Industry (Calculation and Collection) Rules, 2001.

The National Environmental Quality Standards (Self-Monitoring and Reporting by (Industry) Rules, 2001, , were implemented. Even for catering to noise pollution Pakistan Regulation and Control of Loudspeakers and Sound Amplifiers Ordinance (11), 1965 was put into effect.

Some of these rules and regulations were made in British colonial era and were revised to fit the needs of today and rest were made by the legislative bodies of Pakistan after much consideration of the recent developments and advancements.

(c) Laws on Labor and Working Conditions

The constitution of Pakistan highlights the need for labor laws in Pakistan. The Articles that discuss the significance of labor laws in culture are as follows:

Article 11 of the Constitution forbids all kinds of enslavement, required work, and child labor.

Article 18 discusses the right of its residents to enter upon any type of lawful profession or profession and also to perform any legal trade or company.

Article 17 highlights the right to exercise the flexibility of organization and also the right to form unions.

Article 25 is about equal rights prior to the regulation and also the restriction of discrimination on the grounds of sex alone.

Article 37(e) makes provision for protecting simply as well as humane conditions of work, ensuring that children and women are not utilized in vocations unsuited to their age or sex, and also for maternal advantages for women in employment.

Pakistan's work regulations go back to the Indo-Pakistan division. A lot has been done since then to further strengthen these policies and guidelines. Currently, the work law of Pakistan specifies socio-economic conditions, commercial advancement, population, workforce explosion, development of trade unions, degree of proficiency, and also social welfare. Under the constitution, labor legislation is in the domain of both the Federal and Provincial Federal Governments.

d) Multilevel Child Protection Child Labour Laws and Regulations of Pakistan

Social protection laws are put together for assistance of vulnerable social classes to try and create a balance. Social assistance should be seen as a means to reduce poverty and to develop the capabilities of the most vulnerable, increasing social and economic participation, and equality of opportunity. According to Devereux and Wheeler (2004) Social protection is commonly understood as 'all public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks and enhance the social status and rights of the marginalized; with the overall objective of reducing the economic and social vulnerability of poor, vulnerable and marginalized groups. Social protection consists of 'a set of nationally owned policies and programs (UNDP, 2016) usually provided by the state (through domestic resources, either contributions or tax finance), with support from international donors in particular for least developed and lower middle-income countries (UN DESA, 2018). Social protection is theoretically conceived as part of the 'state–citizen' contract, in which states and citizens have rights and responsibilities to each other (Harvey et al., 2007).

One of the main social evils in many developing countries is child labor; underage children are employed and exploited in industrial and domestic settings. Child labor in Pakistan continues to be a reality faced by many Pakistani children. Deprived of the opportunity to study like most other children, many are forced into work from an early age. Although Pakistan's Employment of Children Act 1991 addresses this issue, the country continues to have difficulties implementing the legislation. The minimum age for starting work is 14 years under the Khyber Pakhtunkhwa Prohibition of Employment of Children Act, 2015 and Sindh Prohibition of Employment of Children Act, 2017. Until recently, the country lacked a law prohibiting children from working at home in most states. However, in June, a campaign was launched by Idara-e-Taaleem-o-Aagahi (ITA) called End Child Domestic Labor. In response to which On Aug. 6, 2020, Pakistan banned child domestic labor for the first time, passing an amendment that makes it illegal for children to participate in domestic labor. The Federal Minister of Human Rights announced that the cabinet's decision will now include child domestic labor under the Employment of Children Act 1991.

Other laws debarring child labor includes The Employment of Children Rules 1995, The ICT Prohibition of Employment of Children Act 2018, ICT Child Protection Act 2018, The Children (Pledging of Labour) Act 1933, The Children (Pledging of Labour) Act 1933, Sindh Prohibition of Employment of Children Act 2017,

The Sindh Prohibition of Employment of Children Act 2017 and Khyber Pakhtunkhwa Prohibition of Employment of Children Act 2015.

Apart from child labor acts there are several significant regulations for child protection from early marriages like, The Child Marriage Restraint (Amendment 1929) Bill November 2018, Child Marriage Restraint Bill 2019, The Sindh Child Marriage Restraint Act 2014, and Baluchistan Child Marriage Prohibition Bill 2018. An Act named The Juvenile Justice System Act – May 2018, is also in practice, objective of which is to modify the laws relating to criminal justice system for juveniles by providing special focus on disposal of cases through diversion and social reintegration of the juvenile offenders.

e) Land Acquisition

The Land Acquisition Act, 1894 deals with the acquisition of land in Pakistan by the State for public purpose or for company or for a temporary period. The procedure for acquiring land both by the Government for public purposes and for companies has been described in the Land Acquisition Act.

f) Indigenous Peoples

Groups

The Government of Pakistan does not recognize indigenous peoples in Pakistan. Any reference to them is made with the term "tribal". As such there is no specific policy on the indigenous and tribal peoples. Under special administrative arrangement in Federally Administered Tribal Area (FATA) and The Provincially Administered Tribal Area (PATA) (PATA), the Government has been running the affairs of some tribal areas through regulations or laws enacted during the British rule. These laws are as follows:

1. **The Frontier Crime Regulations (FCR), 1901 (Regulation III of 1901)**

This regulation provides for the suppression of crime in certain frontier districts (i.e., the newly merged districts in the Khyber Pakhtunkhwa and).

The ILO Convention on Indigenous and Tribal Populations (Convention No. 107)

The only international convention specific to indigenous and tribal peoples which Pakistan has ratified (in 1960) is the "ILO Convention on Indigenous and Tribal Populations" (Convention No. 107). The implementation of the convention, however, could not go beyond some service delivery in tribal areas. Pakistan has so far not signed the updated ILO Convention 169 on indigenous and tribal peoples. In 2007 the country voted for the approval of the United Nations Declaration on the Rights of Indigenous Peoples by the UN General Assembly.

The core international human rights instruments, treaties and conventions signed and ratified by Pakistan are:

- International Covenant on Economic, Social and Cultural Rights (Signed on 3 November 2004 and ratified on 17 April 2008).
- International Convention on the Elimination of All Forms of Racial Discrimination (Signed on 19 September 1966 and ratified on 21 September 1966).
- International Covenant on Civil and Political Rights (Signed on 17 April 2008 and ratified on 23 June 2010).

- Convention on the Elimination of All Forms of Discrimination against Women (Accession on 12 March 1996).
- Convention on the Rights of the Children (Signed on 20 September 1990, ratified on 12 November 1990).
- Biological Diversity Act, 2007 (Access to Biological Resources and Community Rights Act 2007).

g) Community Engagement

The Plans, Program and Projects at the Federal level are subject to the guidelines (manual for Development Projects, Revised 2019) provided by the Planning Commission, whereas for the same at the Provincial level is the responsibility of the respective Planning Board or Planning and Development Departments. A Glance at these recommendations shows that community engagement throughout the lifecycle of the project, especially at the conceptualization is obligatory. Similar to this project requiring Environmental Impact Assessment (EIA), communities' involvement is vital.

3.2 WWF Safeguards Standards and Procedures Applicable to the Project

WWF's safeguards standards require that any potentially adverse environmental and social impacts be identified and avoided or mitigated. Safeguards policies that are relevant to this project are as follows.

(i) Standard on Environment and Social Risk Management

This standard is applicable because 'Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management' intends to support activities that result in a variety of environmental and social impacts. The Project is expected to have a profound positive impact on the local flora and fauna. This is in addition to enriching the livelihood support for the people.

Although the detailed feasibility of the project does mention the key activities to be undertaken, still the precise location and impact of specific activities cannot be determined at this stage and will only be known during project implementation. Thus, an ESMF is prepared to set out guidelines and procedures on how to identify, assess and monitor environmental and social impacts, and how to avoid or mitigate adverse impacts. Site-specific ESMPs will be prepared as required, based on principles and guidelines of the ESMF.

(ii) Standard on Protection of Natural Habitats

WWF's mission is to protect natural habitats, and it does not undertake any projects that would result in conversion or degradation of critical natural habitats, especially those that are legally protected, officially proposed for protection, or identified as having high conservation value.

Overall, the 'Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management' related activities will produce net positive benefits, still potential adverse environmental impacts on human populations or environmentally important areas can result due to four major activities if not properly mitigated, and therefore this standard is triggered. These activities include i) Reforestation may lead to decrease in the water availability downstream, ii) risk of exotic or non-native tree species being planted, and iii) construction of

retention areas or rain ponds, may affect local biodiversity and finally iv)terracing can have impact on local hydrology and limiting water availability downstream.

(iii) Standard on Restriction of Access and Resettlement

The WWF's Standard seeks to ensure that adverse social or economic impacts on resource-dependent local communities as a result of restrictions on resource access and/or use are avoided or minimized. The feasibility of the study has not specified any involuntary restriction of access and resettlement. Nevertheless, since there is a possibility that the project may impose restrictions on the use of water, fishing, or perhaps access to water for irrigation, etc. therefore, the standard is triggered because those threats do exist, especially for more vulnerable people who may not have access to justice, may not know their rights, or may be ignored by government or others in positions of power.

The involvement of the community is mandatory as per the local, provincial, and national level Planning rules, and hence this participatory approach can be used as a mitigation mechanism.

(iv) Standard on Indigenous Peoples

The WWF's standard requires ensuring that Indigenous rights are respected, that IPs do not suffer adverse impacts from projects, and that IPs receive culturally appropriate benefits from conservation. The policy mandates that projects respect IPs' rights, including their rights to FPIC processes and to tenure over traditional territories; that culturally appropriate and equitable benefits (including from traditional ecological knowledge) are negotiated and agreed upon with the IPs' communities in question; and those potential adverse impacts are avoided or adequately addressed through a participatory and consultative approach.

The ESMF team has identified three Indigenous communities living in and around project sites, that is, Kehal, Bagris and Mohan tribes. The first two will not be affected given the range of the activities, however, as previously mentioned activities in Lake Manchar might affect the Mohans. Due to customs in place regarding voluntary restriction on hunting and fishing in certain ways, the ESMF consultant reasoned that there will be no profound impact of project activities on the Indigenous people. However, since a small number of community members may be affected, the standard was triggered.

(v) Standard on Community Health, Safety and Security

This Standard ensures that the health, safety, and security of communities are respected and appropriately protected. The Guidance on Labor and Working Conditions requires employers and supervisors to implement all reasonable precautions to protect the health and safety of workers through the introduction of preventive and protective measures. It also requires that the labor rights of project-employed workers be observed, as indicated in Annex 1: Screening Tool. Project activities should also prevent adverse impact involving quality and supply of water to affected communities; safety of project infrastructure, life, and properties; protective mechanisms for the use of hazardous materials; disease prevention procedures; and emergency preparedness and response.

Regarding the community's health and safety, certain project activities can affect the terrestrial and aquatic biodiversity in terms of its quantity and quality, hence the standard is triggered.

Vis-à-vis the overall security of the region, there is a general perception of security threat, which can be mitigated with the stakeholder engagement such as the tribal elders, district administration and involving the Levies, Border Security Forces (BSL), Rangers & Frontier Corps (FC). Application of WWF's Statement

of Principles: Human Rights, Statement of Principles: Indigenous Peoples, Safeguard on Stakeholder Engagement, Safeguards on Community Health, Safety & Security and associated guidance can guide the project team to ensure that the threat does not become a reality. Ignoring these power dynamics can pose a real threat to not only the project's successful implementation, but relationships between the tribes and the government could worsen as a result of the project, and increased fighting between communities and even individuals is possible, and therefore, the standard is triggered. More information on how these risks will be mitigated can be found in Section 4, Anticipate Environmental and Social Impacts and Mitigation Measures.

(vi) Standard on Pest Management

WWF-funded projects are not allowed to procure or use formulated products that are in World Health Organization (WHO) Classes IA and IB, or formulations of products in Class II, unless there are restrictions that are likely to deny use or access by lay personnel and others without training or proper equipment. The project will follow the recommendations and minimum standards as described in the United Nations Food and Agriculture Organization (FAO) International Code of Conduct on the Distribution and Use of Pesticides and its associated technical guidelines, and procure only pesticides, along with suitable protective and application equipment, which will permit pest management actions to be conducted with well-defined and minimal risk to health, environment, and livelihoods.

The proposed activities include afforestation etc., although there is no direct purchasing of pesticides, however, there is a chance of obtaining these pest sprays etc. at some later stage, hence the standard was triggered.

(vii) Standard on Cultural Resources

This Standard ensures that Cultural Resources are appropriately preserved, and their destruction, damage or loss is appropriately avoided. Physical cultural resources (PCR) include archaeological, paleontological, historical, architectural, and sacred sites including graveyards, burial sites, and unique natural values. Intangible cultural resources include traditional ecological knowledge, performing arts, oral traditions and expressions, traditional craftsmanship and social practices, rituals, and events. The impacts on cultural resources resulting from project activities, including mitigating measures, may not contravene either the recipient country’s national legislation or its obligations under relevant international environmental treaties and agreements.

All the project activities and their location are not clear, and these will be clear in the implementation stage The standard is triggered, and a management plan will be required if it is deemed necessary once final site selection has been made.

(viii) Standard on Grievance Mechanisms

Project-affected communities and other interested stakeholders may raise a grievance at any time through a variety of grievance redress mechanisms, including a project-level GRM managed by the PMU, an existing country-level GRM in the WWF Pakistan office, the WWF US GRM, a third party GRM called Whistle B, or via the GCF Independent Redress Mechanism. The PMU will be responsible for informing project-affected parties about the Accountability and Grievance Mechanisms available to them. Contact information of the PMU and WWF will be made publicly available. More details are also provided in the Grievance Redress section of this ESMF.

(ix) Standard on Public Consultation and Disclosure

This standard requires meaningful consultation with relevant stakeholders, occurring as early as possible and throughout the project cycle. It requires the Project Team to provide relevant information in a timely manner and in a form and language that are understandable and accessible to diverse stakeholders. This standard also requires that information concerning environmental and social issues relevant to the project is disclosed for at least 30 days prior to implementation, and 45 days if the Indigenous Peoples Standard has been triggered. WWF will disclose safeguards documentation on its Safeguards Resources web page as well as through the GCF disclosure mechanisms and a project-specific webpage hosted by the WWF GCF Agency. The final safeguards documents should be published on websites of the Executing Entities and made available locally in specific locations. The project is also required to locally release all final key safeguards documents via hardcopy, translated into the local language and shared with communities in a culturally appropriate manner, to facilitate awareness by relevant stakeholders that the information is in the public domain for review.

(x) Standard on Stakeholder Engagement

This standard ensures that WWF is committed to meaningful, effective, and informed stakeholder engagement in the design and implementation of all GEF and GCF projects. WWF's commitment to stakeholder engagement arises from internal standards such as WWF's Project and Program Standards (PPMS), as well as WWF's commitment to international instruments such as United Nations Declaration on Indigenous People (UNDRIP).

Stakeholder engagement is an overarching term that encompasses a range of activities and interactions with stakeholders throughout the project cycle and is an essential aspect of good project management. It is also an inclusive process to support the development of strong, constructive and responsive relationships that help to identify and manage risks and which encourage positive outcomes for stakeholders and conservation and regeneration activities. Stakeholder engagement is most effective when initiated at the earliest stage of project development. Engagement strategies include disclosure of information, consultation, effective and equitable participation of the most vulnerable. The intensity and scale of engagement will vary with the type of activities, socio-political complexities, and potential risks and impacts.

A Stakeholder Engagement Plan (SEP) (Annex 7 of Funding Proposal) has been developed to comply with WWF's Standard on Stakeholder Engagement. The SEP contains a record of consultations that have happened to date, during the design phase of the project as well as outlining in detail the process that will be followed for stakeholder engagement during project implementation. It is important to note that this SEP will need to be updated and verified annually with project stakeholders during the life of the project, as per the guidance in Annex 7. The SEP will be disclosed at the same time and in the same manner as this ESMF and associated IPPF and FP.

(xi) Guidance Note on Gender-based Violence and Sexual Exploitation, Abuse and Harassment

All over the world, it is estimated that one in three women and girls experience GBV during her lifetime (World Bank, 2019). A recent study conducted by IUCN, in collaboration with USAID as part of Advancing Gender in the Environment (AGENT), states that forms of GBV (ranging from sexual, physical and

psychological violence, to trafficking, sexual harassment, sexual coercion and in some cases rape) can be linked to environmental issues.

Many projects implemented by WWF relate to effective management of protected areas and the landscapes in which they are located through support to law enforcement, patrolling and better management and restoration of landscapes by restricting access to natural resources. These activities can potentially give rise to GBV/SEAH risks where government-employed law enforcement officials/rangers/guards supported by the project may misuse the power of their positions by sexually exploiting women in local communities.

GBV and SEAH in the implementation of WWF activities in projects and programs is unacceptable and requires timely, proportional, and appropriate action. WWF recognizes that to achieve biodiversity conservation it is vital to promote gender equality and make every effort to ensure that project activities implemented by WWF respect integrity and human rights and mitigate any risk that gives rise to discriminatory and exploitative gender inequalities.

This Guidance Note on Gender Based Violence (GBV) and Sexual Exploitation, Abuse and Harassment (SEAH) is intended to assist project teams in identifying risks of GBV and SEAH that may emerge in conservation projects. Further, this note is meant to support decision making, and to inform planning and implementation of possible mitigation measures to address GBV and SEAH risks in projects identified during project preparation and execution. Specifically, the project will:

- Establish basic guiding principles for effectively minimizing and mitigating any identified GBV/SEAH risks in projects.
- Identify any potential GBV/SEAH risks by screening proposed project activities.
- Develop a gender-responsive Stakeholder Engagement Plan (SEP), which will be implemented, monitored and adapted as needed throughout the life of the project.
- Where GBV/SEAH risks are identified as a potential risk of project activities:
    - the SEP should include specific GBV/SEAH considerations for how to appropriately conduct consultations
    - the project team may be required to prepare a detailed GBV/SEAH Action Plan and associated budget
- Include any identified GBV/SEAH risks and mitigation measures in project monitoring and annual reporting.

(xii) Guidance Note on Projects Relating to Dams

In many river basins, WWF's freshwater conservation work is affected by the development of new dams or by the operations of existing dams. WWF is opposed to unsustainable dams that do not adhere to internationally recognized principles and criteria for good practice. WWF advocates that (1) no dams be built in, or affect, areas of high conservation value; (2) alternatives be fully considered before decisions are made to build new dams; and (3) principles, tools, and inclusive, transparent processes be applied that make the best possible choices regarding the management of existing dams and development of new dams.

WWF actively works to assess existing dams to minimize impacts and maximize benefits and to reduce the demand for new dams. Per WWF standards, the Recharge Pakistan project will not be involved in the creation of any new dams, as the project involves green infrastructure of waterworks. At this time, it is

not foreseen that the project will interact with any current dams in Pakistan, but due to the long timeframe of this project, the overview of WWF's Guidance Note on Dams has been included should it become necessary.

WWF advocates for improvement of operational management for environmental benefits at existing dams, through related policies, plans, or regulations. This can include:

- Establishing environmental flow regimes to restore ecological functions downstream of a dam by mimicking natural variability in river flows. Work may include assessment of environmental flow requirements, hydrological studies, design of reservoir releases, and policy work.
- Promoting retrofitting dams or infrastructure to improve performance and reduce need for new infrastructure.
- Promoting adaptation of existing infrastructure to allow for improved environmental performance; and
- Promoting decommissioning or removal of hazardous or obsolete dams.

Dam Safety

Given the above instances, and in line with WWF Network's position on dams, WWF can:

- For GEF and GCF projects, partner with a GEF and GCF Implementing Agency that is accredited for Safety of Dams safeguards to jointly support such efforts, so long as the other agency's safeguards system is applied for the entire project.
- Implement projects that involve working with the government or relevant sector on strategic river basin planning, with the goal of restricting or concentrating dams to appropriate rivers and watersheds of lower conservation value (e.g., already altered).
- Implement projects that result in recommendations for environmental flow requirements for a stream or river (e.g., timing, volume, duration).
- Implement projects that involve working with governments to ensure better regulation of hydropower sector.
- Implement projects that build capacity in the hydropower sector and government ministries to improve environmental-based approaches/tools for sustainable development; and
- Implement small or minor water infrastructure work whose impact is deemed not to trigger Safety of Dams safeguards through WWF's Policy on Environment and Social Risk Management

(xiii) Guidance Note on Ranger Principles

Successful nature conservation must be founded on understanding and supporting human rights in relation to the environment, including rights of Indigenous Peoples. It must also offer a mix of incentive measures to advance sustainable development as well as enforcement actions to guard against illegal activities. WWF recognizes the importance of enforcing environmental laws and regulations, and the critical role rangers play in protecting wildlife, managing protected areas, resolving human-wildlife conflict, and achieving other positive outcomes for people and nature. Rangers are entrusted with the conservation of nature, and in many cases are mandated as the fundamental authority for enforcing the law. This lawful duty must be exercised with restraint and must meet high ethical standards to ensure that human rights are respected and protected. WWF only supports law enforcement activities when conducted by persons subject to the authority of civil administrative bodies. By definition this will include

those run by government or legitimate political organizations in fragile states, and in a way that respects and protects the human rights of local communities and Indigenous Peoples.

(xiv) Guidance Note on Labor and Working Conditions

As a conservation organization, WWF does not typically fund large infrastructure activities in conservation projects implemented by WWF's GEF and GCF Agency and therefore does not directly adversely impact labor and working conditions. However, WWF GCF Agency projects do implement projects in the forestry, agriculture and fisheries sectors, which may have potential unintended adverse impacts. This is mostly seen in financing activities necessary for strengthening protected area management systems, including construction of protected area administrative buildings, watch towers, or accommodations for park guards.

In such cases, these activities are usually executed by third party contractors who employ construction workers including sub-contractors. In such cases, WWF will ensure that any funding for such activities complies with WWF's Environment and Social Safeguards Integrated Policies and Procedures (SIPP) and more specifically international labor and working condition standards such as the International Labour Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work and any relevant local labor standards of the project specific countries.

This Guidance Note provides detailed guidance of reasonable precautions to implement in managing principal risks to occupational health and safety. The following is based on the IFC's Environmental, Health, and Safety Guidelines (April 30, 2007), and covers the following general thematic areas:

- General Facility Design and Operation, including themes such as integrity of workplace structures, fire precautions, first aid, air supply, among others.
- Training on laws and standards.
- Physical Hazards, including themes such as safe handling of equipment, eye hazards and vehicle safety among others.
- Standards for Workers Living Conditions, including themes such as temperature control, waste management, dormitory facilities and medical facilities, among others.

3.3 Gaps between Pakistan's laws and policies and the WWF's SIPP

Mostly, there is not much difference (s) between Pakistan's Environmental and Social Laws, Rules, Regulations and WWF's ESSF and SIPP except for the few conspicuous differences in the performance measures and one of the standards discussed in the ensuing subsection. However, in the event of any inconsistency concerning the relevancy of processes for the execution of proposed interventions, the provisions of WWF will be followed. Consequently, this will have obligatory effects on the 'Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management'

Concerning the Social impacts, the government of Pakistan does not recognize the distinct nature of Indigenous People, and obligations to take into consideration the adverse impact of developmental activities on IPs. Instead, they are designated as a separate tribe and there is not any particular provision in the existing set of laws that specifically looks into the avoidance of adverse impacts of proposed interventions on IPs and at least minimizing such effects. WWF's ESSF and SIPP are ample and

comprehensive as compared to Pakistan's Laws in this regard. For example, the Standard on Community Engagement, Standard on Sexual Exploitation, Standard on Stakeholder's Engagement are some of the due diligences meticulously followed under any circumstances, but in existing Country's case, at time certain important dimensions and standards are compromised depending on the circumstances.

Likewise, the environmental standards of the country and WWF ESSF are coherent and balanced. The Government of Pakistan is a signatory of international conventions (e.g., Convention on Biological Diversity, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Ramsar Convention, Convention on the Conservation of Migratory Species, United Nations Convention to Combat Desertification, United Nations Framework Convention on Climate Change, Kyoto Protocol to UNFCCC, and Paris Agreement etc.) on environment and biodiversity. Additionally, the federal and provincial laws stipulate strict adherence to the national standards, however, the enforcement of these regulations is ineffective and are subject to political temptations. CPEC is a glaring example of such compromises, where no SEA or EIA was undertaken, though under the national laws, these investigations were mandatory.

For the purposes of the Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management,' the provisions of the WWF's ESSF and SIPP shall prevail over Pakistan legislation in all cases of discrepancy where these adhere to a higher standard of care in comparison to local legislation.

4. Anticipated Environmental and Social Impacts and Mitigation Measures

4.1 Adverse Environmental and Social Impacts

The WWF GCF Project 'Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management' is designed to created integrated approaches to flood and drought risk management in the Indus Basin while enhancing the resilience of vulnerable rural communities in the Indus Basin to climate change and enabling a paradigm shift towards Ecosystem-Based Adaptation in Pakistan.

The project is expected to have positive impacts on the local environment in terms of good quality and quantity of water for irrigation and drinking purposes, augmented water governance system, enhanced flora and fauna, adoption of smart agriculture techniques, ultimately leading to reinforced climate resilience in the arid and semi-arid regions. These interventions will have enduring effects on the local environment and livelihood opportunities, especially for vulnerable and marginalized communities. However, there are chances of some minor environmental effects, which are mentioned in the ensuing subsection along with the mitigation plan.

The Project is expected to have far reaching social and economic impacts. The project includes social benefits such as reduction in poverty through better livelihood opportunities, and climate resilience, especially for the IPs and vulnerable groups. Likewise, gender lens is expected to be mainstreamed in the future course of action through the revival of local water boards and committees, and involvement of local CSOs for different project outcomes. However, without mitigation, it is possible that a few identified

unfavorable social impacts could transpire in the wake of existing communal differences, intra and inter-regional disputes and institutional conflicts. The subsequent section explains these disagreements along with the mitigation activities.

4.2 Mitigation Measures

The risk and mitigation table provides information on both social and environmental risk, with environmental risk being assessed under WWF's Standard on Natural Habitats. It may also be noted each project activity was assessed against a Selection Criteria developed by Watersprint (reproduced here as Appendix 8) in its Feasibility Report (Annex 2 of the FP). This criterion allowed Watersprint to gauge the feasibility of each proposed activity, especially in the context of climate risk, and these criteria align with the site selection criteria around flood risk, socio economic/biophysical vulnerability, and ecological score. Additionally, they align with the local objectives/challenges and are practical and can make use of potential ecosystem processes to meet the objective and have the potential to generate co-benefits of social-economic criteria. For alignment with the climate rationale for the project, climate science and hydrological modelling will be conducted to show a clear climate hazard, exposure, and thus vulnerability as well as the requirement for strengthened adaptive capacity at each site.

In addition, Appendix 1 provides a screening tool which will allow the relevant ESSF staff to assess both environmental and social risks.

Table 1. Anticipated Environmental and Social Impacts and Mitigation Measures

ACTIVITY	SITE	RISK	MITIGATION	ROLES, RESPONSIBILITIES, AND ADDITIONAL COMMENTS
COMPONENT 1: PROOFS OF CONCEPT FOR EBA AND GREEN INFRASTRUCTURE INTERVENTIONS AS EFFICIENT AND EFFECTIVE SOLUTIONS FOR FLOOD AND DROUGHT RISK REDUCTION IN PAKISTAN.				
Sub-activity 1.1.1.1: Restore 12,115 ha of degraded riverine ecosystems in D.I. Khan. The project will create block and linear plantations along hill torrent and catchment areas with the Government of KP. For smaller sites and when available, saplings will be sourced and planted by community owned and/or managed nurseries	**DI Khan**	A risk that could arise is that non-native / non-indigenous tree species may be planted in the project site. There are instances where in order to meet a specific quantitate objective, project proponents end up planting trees that are fast growing, without consideration of it's impact on groundwater, or other ecosystem services. One such example is the plantation of the eucalyptus trees under the government funded Billion Tree Tsunami Project where it has been noted that it has had an adverse impact on the	The project will ensure that only native and indigenous tree species are planted. Moreover, an assessment should be carried out to gauge the appropriateness of species in terms of biodiversity, water efficiency, forest fire, local needs, cultural sensitivity, survival, etc. is suggested as a mitigation activity	WWF-Pakistan in collaboration with the provincial forest department.

		groundwater table, which is declining as the eucalyptus requires more water to grow. In addition, this activity may result in loss of agricultural land, while in some areas this can exacerbate the flooding intensity in the upstream areas. Additionally, in hill torrent sites, increased infiltration of water may lead to a reduction of available water downstream which could also have an impact on the ecosystem. Riverine plantations can decrease streamflow by increasing interception, evapotranspiration, and infiltration. This can lead to decreased water availability for downstream users, such as farmers, industries, and municipalities during drought season. This triggers the standard on **Protection of Natural Habitats**	The appropriate density of the plantation can be helpful to mitigate the change in hydrological regime. As it will help to control excessive interception and evapotranspiration, which can decrease streamflow. It is important to monitor the plantation to make sure that it is not having a negative impact on the hydrological regime. This can be done by measuring streamflow, groundwater levels, and other parameters.	

		DI Khan often sees instances of terrorist attacks, and where attacks on police and military personnel are common place. Two recent incidents took place on 11th August, 2022 (https://www.dawn.com/news/1704262/two-militants-killed-in-di-khan), and on 6th July, 2022 (https://www.thenews.com.pk/print/971764-two-traffic-cops-martyred-in-di-khan-terror-attack). Hence, one risk that could potentially arise is the safety and security of the project team, and local communities as a result of the presence the project team.	In the process of site selection, it is imperative that police, security, and military personnel are also consulted. The project needs to gauge how safe each site will be, and what security measures need to be in place to ensure the safety and security of the project team. WWF-Pakistan's Security Plan (see Annex 5) will be followed. In addition, tribal communities residing in DI Khan have considerable influence as well. Tribal elders hence need to be continuously engaged, and updated on project activities and progress. Moreover, the approval of the tribal elders through their *jirgah* system should be obtained before the start of all project activities.	
		This activity also triggers the standard on **Indigenous Peoples & Local Communities** and **Restriction of Access and Resettlement.** The ESMF consultants identified the presence of the Kehal and Mor tribe in the DI Khan project site. These tribes were indigenous fishing communities which have migrated to DI Khan. They are now largely agriculture-based communities, who also rely on weaving baskets and birdcages, and providing seasonal harvesting labour for their livelihoods. The ESMF consultants also identified the presence of a number of Pakhtoon tribes living in the area. These tribes have considerable influence in the area. There are also conflicts between the tribes which could be exasperated or aggravated as a result of the project activity, especially in the context	The tribal communities residing in DI Khan have considerable influence as well. Tribal elders hence need to be continuously engaged, and updated on project activities and progress through an FPIC process as outlined in Section 4.6 of the ESMF and the Social Mobilization Plan as detailed in Appendix 6. Moreover, the approval of the tribal elders through their *jirgah* system must be obtained before the start of all project activities.	

		of access to project benefits. This could lead to the tribes refusing to work with the project team, and making it difficult to access the project area, and stoppage of work by the tribes.		
Sub-Activity 1.1.2.1: Excavate 264 m of flow paths in Badri Village, Ramak, to restore the natural hydrology of connected wetlands Restoring the flow paths of the Badri channel, which is currently filled with silt, debris, and other obstructions, will allow better freshwater flows via this natural channel into connected wetlands (including the Badri Pond), reducing the risk of water directly flooding community agricultural lands, assets and infrastructure. Furthermore, the water-holding capacity of the Badri channel, which supplies the Badri Pond (Sub-activity 1.1.2.2), will be enhanced. These	Badri, Ramak DI Khan	This activity triggers the standard on **Protection of Natural Habitats, Community Health & Safety, Indigenous Peoples & Local Communities,** and **Restriction of Access & Resettlement.** The first risk that could arise as a result of this activity is with regards to the excavation of silt, debris, and other obstructions. This will not only involve hiring labour to carry out the excavation work, but will also entail dumping the excavated material. Without mitigation measures in place, excavated material could be dumped in areas which could lead to polluting the landscape, and **degrading the natural habitat**.	The project will need to provide a proper Waste Management section as part of the ESMP detailing as to where and how the debris, silt, and, the "other obstructions" will be dumped, and how they intend to dump and dispose of the excavated material. This must be approved by the relevant ESSF focal point within the PMU before the commencement of this activity. Moreover, it is anticipated that the silt that is excavated will be used to rehabilitate, reinforce, and strengthen the sides of the flows path.	This activity will be undertaken by provincial irrigation departments WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.

two features of Ramak's natural hydrology are the only sources of freshwater for agriculture and domestic use for Badri village, which consists of 300 households with an estimated population of 2,100 people.		With regards to **labour**, there is a possibility that untrained labour is hired, that proper safety gear is not provided, and that they are not paid or provided benefits as per the relevant local labour laws. There is also the risk that children (persons under the age of 15) may be employed. In addition, the hiring of labour personnel for this activity could lead to resentment among local communities and tribes, especially in the instance where labour is hired form other regions or provinces.	All labour that is hired for the excavation work shall need to be provided with proper safety gear, temporary housing, first aid training, and the relevant health and safety related insurance cover. In addition, the project must ensure compliance with all relevant labour laws. Moreover, the project team must ensure that the labour hired is trained, and more importantly are natives / locals of the area. If this is not possible, this must be highlighted and bought to the attention of the local and tribal communities. The project must also ensure that no children (persons under the age of 18, per WWF practice) are hired, and legal or religious documentation will be required as proof of age.	

		DI Khan often sees instances of terrorists attacks, where attacks on police and military personnel are common place. Two recent incidents took place on 11th August, 2022 (https://www.dawn.com/news/1704262/two-militants-killed-in-di-khan), and on 6th July, 2022 (https://www.thenews.com.pk/print/971764-two-traffic-cops-martyred-in-di-khan-terror-attack). Hence, one risk that could potentially arise is the safety and security of the project team, and local communities as a result of the presence the project team.	In the process of site selection, it is imperative that police, security, and military personnel are also consulted. The project needs to gauge how safe each site will be, and what security measures need to be in place to ensure the safety and security of the project team. WWF-Pakistan's Security Plan (see Annex [x]) will be followed. In addition, tribal communities residing in DI Khan have considerable influence as well. Tribal elders hence need to be continuously engaged, and updated on project activities and progress. Moreover, the approval of the tribal elders through their *jirgah* system should be obtained before the start of all project activities.	

		The ESMF consultants identified the presence of the Kehal and Mor tribe in the DI Khan project site. These tribes were indigenous fishing communities which have migrated to DI Khan. They are now largely agriculture based communities, who also rely on weaving baskets and birdcages, and providing seasonal harvesting labour for their livelihoods. The ESMF consultants also identified the presence of a number of Pakhtoon tribes living in the area. These tribes have considerable influence in the area. There are also conflicts between the tribes which could be exasperated or aggravated as a result of the project activity, specially in the context of access to project benefits. This could lead to the tribes refusing to work with the project team, and making it difficult to access the project area, and stoppage of work by the tribes. Moreover, if the project activities are being carried out on land which the local communities are reliant on for their way of life (food, fodder / grazing, or livelihood), then this could result in restricting on the access to the same, and thereby negatively impacting the local communities.	To mitigate and prevent the identified risks, the following steps will be need to followed: 1. Site selection will be carried out in consultation with indigenous, local and resident communities, along with government bodies. 2. If a site is selected which is relied upon by the local communities and indigenous tribal groups, then an FPIC process needs to be carried out (see below). 3. With regards to livelihoods, the project will ensure that livelihood options, where possible, align with existing livelihood options. In addition, where necessary rights of easement and access will be provided and agreed to with the IPLC. 4. The project will ensure that if the implementation of the project activity in a certain site will adversely affect the local communities' way of life and their livelihoods, and the alternatives provided will not be sufficient, then a new site will be selected. This **FPIC process** as described in Section 4.6 of the ESMF will be followed. In brief, it is a two-stage process, which is as follows: <u>Stage 1</u>: Once the ESSF Team has received the first draft of the	

			project sites and the project activities, it shall conduct an extensive FPIC process by conducting community consultations. The Team shall ensure that: I. The project and site level activities are presented to each proposed project community in their local language. II. The benefits and the risks associated with each project activity, especially how it will, both negatively or positively, impact the substantive and procedural human rights of the project community are clearly and plainly communicated to each project community. This involves proposed alternatives to food, fodder, and livelihoods. III. That all comments, feedback, questions, concerns, and criticisms received against the project activity is clearly recorded, both in the original language it was communicated in and a translation of the same is also provided, and with the names and details of each respondent. IV. That all FPIC consultations are no shorter than at 2 (two) days V. That the names, signatures, CNICs, thumb prints, of each participant is recorded. VI. That, where possible, there is at least an equal balance of	

			both men and women participants VII. That there are pictorial and video evidence of all consultations <u>Stage 2</u>: Second presentation to the Project Communities on final sites and alternatives to obtain final approval on project activity. Along with: i. Information on alternatives provided to mitigate the impact on their way of life.	
Sub-Activity 1.1.2.2: De-silt the 2 ha Badri Pond in the Ramak wetlands to enhance its water-holding capacity. The silt from the pond will be used to strengthen the embankments of the pond as described under Sub-activity 1.1.2.3.	Badri, Ramak, DI Khan, KP	As above (Protection of Natural Habitats, Security, Labour, IPLCs, Excavation works, and Restriction of Access and Resettlement)	As above	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.
Sub-Activity 1.1.2.3: Enhance and reinforce 410 m of embankments in Badri Village to reduce erosion.	Badri, Ramak, KP	**As above** (Protection of Natural Habitats, Security, Labour, IPLCs, and Restriction of Access and Resettlement)	**As above**	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.
Sub-Activity 1.1.2.4: Excavate 4,000 m of flow paths in Paniala Village to restore natural hydrology of Karez Systems (surface and subsurface natural channels).	Paniala, Ramak, DI Khan, KP	**As above** (Protection of Natural Habitats, Security, Labour, IPLCs, and Restriction of Access and Resettlement)	**As above**	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.

Sub-Activity 1.1.2.5: Excavate 30,000 m of flow paths in the existing water channels of Manchar Lake to restore the natural hydrology of the 25,000 ha Manchar Wetland. The Indus River flows directly into the Manchar Wetland through three (3) main river channels Aral Wah, Mor Iak, and the Danistar Canal. Freshwater flows through these channels are currently obstructed due to blockage from debris and sediment. The freshwater flows will be restored through excavating the channels to reduce flooding of nearby communities, increase water availability, and restore natural ecosystem functioning essential to the livelihoods of local farmers and fishers.	Manchar, Sindh	Standard on **Indigenous Peoples & Local Communities, Protection of Natural Habitats, and Community Health & Safety** will be triggered. Risks identified above with regards to the Protection of Natural Habitats, Labour, Excavation works, and Restriction of Access and Resettlement will apply here.	**As above**	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures. Note: Manchar Lake supports the livelihoods of approximately 10,000 households, including 2,000 Indigenous Mohana peoples.
		IPLC: Manchar Lake is home to the Mohana tribe. The Mohana, also known as the "*Bird People*" or "*Lords of the Sea*", are descendants of the first inhabitants of the Indus valley, (and which can be traced back 5000 years). The Mohana community still lives in one of the last remaining floating villages on Lake Manchar.	Albeit the excavation works will not directly impact the Mohana tribe, the tribe should be continuously engaged with, and kept updated on the progress of project activities.	
Activity 1.2.1: Design and implement 127 green infrastructure measures for flood risk reduction. The project will commission the design and implementation of green infrastructure measures by a specialized local engineering firm, through a competitive bidding process, for flood risk reduction.	See below for site wise activities		The hiring process of the engineering firm will take into account their safety record, employee training practices and on-site risk mitigation plans. They will be required to comply with WWF's Guidance Note on Labor and Working Conditions.	

Sub-Activity 1.2.1.2: Build 9 flood protection embankments— 6 in D.I. Khan and 3 in the Ramak Watershed.	Six in DI Khan and three Ramak, KPK	Standard on **Indigenous Peoples & Local Communities, Protection of Natural Habitats, and Community Health & Safety** will be triggered. Risks related to Protection of Natural Habitats, Security, Labour, IPLCs, and Restriction of Access and Resettlement will apply here. Construction related works could lead to disturbances in the area.	Mitigation measures already mentioned above in this table related to Protection of Natural Habitats, Labour, Security, Excavation works, Restriction of Access and Resettlement will apply here.	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures. **Note:** Grass will be planted, and other supplementary structures established on the embankments to provide additional protection against erosion and overtopping where needed. To further reinforce the grass on the flood embankments, the river slope will be armored with stone pitching or riprap (loose stone).
Sub-Activity 1.2.13: Build 7 flood dispersal embankments Floodwater dispersal measures include earthen embankments, earth-clay bunds, levees, watercourses, water channels, and other structures that modify the natural flows of a waterway. Water dispersal or diversion consists of multiple measures that intercept clear surface water runoff upstream of an area at risk of flooding, transport it through the natural path, away from at-risk property, infrastructure or land, and discharge it safely downstream	■ 1 in DI Khan (KP) ■ 1 in Manchar (Sindh); and ■ 5 in Chakar Lehri (Balochistan)	This activity triggers the Standards on **Restriction of Access & Resettlement, Protection of Natural Habitats,** and **Community Health, Safety & Security.** With reference to the first standard, there is a risk that the construction of these flood dispersal embankments could lead to a reduction of water to downstream communities who may be dependent on the same. This could also lead to a reduction in the fresh water flows to ecosystems and natural habitats relying on the flow of the floodwaters, and could potentially lead to the degradation of the natural habitats caused by this reduction, thereby triggering the second standard.	Mitigation measures to address the potential reduction of water include providing an outlet that allows for the controlled release of water downstream during periods of low flow. This can ensure that downstream communities receive a consistent supply of water even if the embankments temporarily reduce the flow of water. While detailed designs are being developed in the detailed design phase of the project implementation the engineering firms will ensure that the designs of the dispersal embankments have	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.

		There is also a risk that the land that may be used to divert the water towards could already be occupied or in use by communities for residential purposes. Hence, the construction of these interventions could lead to some form of restriction or acquisition of the same. The third standards has been triggered due to potential unsafe labour practices, labour not provided with proper HSSE equipment, or first aid training. The last standard that this activity triggers is Conflict Sensitivity. Water issues have also been a source of conflict between communities, especially in the DI Khan and Chakar Lehri regions, and any activity which deals with access and use of water, if not properly dealt with, will lead to conflicts.	an outlet to ensure controlled release of water is provided during low flow seasons. During the project implementation the project team and engineering firms designing the interventions will ensure that whatever land is used is either barren, or is not in use by the local community. For labour practices, the ESSF Manager in the PMU and the ESSF staff hired on sites will ensure compliance with the relevant labour laws, and all labour employed is provided with the relevant HSSE kits. For potential conflict, the project will follow WWF Pakistan's Social Mobilization Plan as detailed in Appendix 6. This includes an FPIC process as outlined in this ESMF for ensuring the full participant and consent of all involved communities and the approval of the tribal elders through their *jirgah* system will be obtained before the start of all project activities.	
Sub-Activity 1.2.1.4: Build 45 gabion bunds. A gabion bund is a wire cage filled with stones, boulders, rocks, or sand/soil. It is often used to stabilize and protect	I. Manchar (2), Sindh II. DI Khan (34) and Ramak (5), KPK III. Chakar Lehri (4), Balochistan	**Manchar** Risks related to Protection of Natural Habitats, Labour, IPLCs, Construction, and Restriction of Access and Resettlement will apply here. **DI Khan**	**Manchar** Mitigation measures already mentioned above in this table related to Protection of Natural Habitats, Labour, IPLCs, Construction, and Restriction of Access and Resettlement will apply here.	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.

riverbeds, riverbanks, or slopes against erosion.		Risks related to Protection of Natural Habitats, Security Labour, IPLCs, and Restriction of Access and Resettlement will apply here. **<u>Chakar Lehri (Balochistan)</u>** Risks related to Protection of Natural Habitats, Security Labour, IPLCs, and Restriction of Access and Resettlement will apply here. In addition, Balochistan has and continues to face internal conflict, specially from separatists' groups, such as the Balochistan Liberation Army (BLA). These could lead to risks related to the security and safety of the project team. Moreover, Baloch tribes residing in here have a lot of influence and say in the governance of the region. Failure to engage with these tribal communities could lead to the same not allowing access to these sites, or stoppage of work.	**<u>DI Khan</u>** Mitigation measures already mentioned above in this table related to Protection of Natural Habitats, Security, Labour, IPLCs, and Restriction of Access and Resettlement will apply here. **<u>Chakar Lehri (Balochistan)</u>** Mitigation measures already mentioned above in this table related to Protection of Natural Habitats, Security, Labour, IPLCs, and Restriction of Access and Resettlement will apply here.	**<u>Note:</u>** Gabion stepped weirs are commonly used for river training and flood control; the stepped design enhances the rate of energy dissipation in the channel and mitigates the risks of floods through delaying and diverting floodwaters. The gabion bunds will be designed to act as a spillway, safely diverting floodwaters
Sub-Activity 1.2.1.5: Build 42 small retention areas. Retention areas are ponds where excess river discharge or floodwater is. Generally, they are connected to a river via channels so that in periods of high discharge or flooding, the retention areas are filled, which reduces the peak flow, increases infiltration, and stores water for domestic and/or agricultural purposes.	1. 34 in D.I. Khan, KPK 3. 6 in Manchar Watershed, Sindh 4. 2 in Chakar Lehri Watershed, Balochistan	This activity could lead to the removal of vegetation and change in land use which could have a potential impact on the biodiversity dependent on the land converted to construct the ponds thereby triggering the standard on **Protection of Natural Habitats.** Although these are likely to be connected to rivers via channels, WWF expects water to be retained in the retention areas for several weeks and perhaps months depending on their size. Seasonal rain will help replenish and aerate the captured water. Although floodwaters in Pakistan and elsewhere become a human health risk primarily through their interaction with raw sewage (which should not be the case with designed retention ponds), water and vector-borne diseases can emerge as a result of stagnant water. Following consultations between WWF	An integrated land use management plan with a participatory approach by involving local CSOs and other community members is suggested As described in our ESMF all project outputs, meaning all activities under a given output, in each landscape will be subject to the project's ESS screening (which includes a category on health and safety) to identify possible risks and create any necessary mitigation measures or plans. In Year 1 of the project implementation, more detailed	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures. **<u>Note:</u>** The retention areas will be established using local materials (such as stones and gravel), in natural depressions and watercourses as mentioned above. This will limit the transformation of the landscapes and ecosystems. The detailed design of the retention

		Pakistan and other project implementing partners who have implemented similar activities this risk was not identified as a significant risk as steps can be taken to avoid this risk which have been integrated into the project approach. It is also important to note that the water retained in these areas is not intended for household consumption. **DI Khan** Risks related to Protection of Natural Habitats, Security Labour, IPLCs, and Restriction of Access and Resettlement (land use and dependency) will apply here. In addition, the creation of retention ponds could lead to a reduced access of water to communities living downstream, thus trigging the standard on **Restriction of Access and Resettlement**. **Manchar** Risks related to Protection of Natural Habitats, Labour, IPLCs, Construction, and Restriction of Access and Resettlement will apply here. **Chakar Lehri (Balochistan)** Risks related to Protection of Natural Habitats, Security Labour, IPLCs, and Restriction of Access and Resettlement will apply here. In addition, the creation of retention ponds could lead to a reduced access of water to communities living downstream, thus trigging the standard on **Restriction of Access and Resettlement**	designs for the retention areas will be created prior to construction and will integrate any mitigation measures included in the ESS screenings in the design, construction, and O&M plans of the retention areas. **DI Khan** Mitigation measures already mentioned above in this table related to Protection of Natural Habitats, Security Labour, IPLCs, and Restriction of Access and Resettlement (land use and dependency) will apply here. The project activity does ensure that the detailed design of the retention areas will ensure that only flood peaks are captured, maintaining downstream water flows. **(Balochistan)** As above **Manchar** Mitigation measures already mentioned above in this table related to Protection of Natural Habitats, Labour, IPLCs, Construction, and Restriction of Access and Resettlement stated as above will apply here. **Chakar Lehri (Balochistan)**	areas (Sub-activity 1.2.1.1) will ensure that only flood peaks are captured, maintaining downstream water flows.

			Mitigation measures already mentioned above in this table to Protection of Natural Habitats, Security Labour, IPLCs, and Restriction of Access and Resettlement will apply here. The project activity does ensure that the detailed design of the retention areas will ensure that only flood peaks are captured, maintaining downstream water flows.	
Sub-Activity 1.2.1.6: Build 9 large retention areas. The design and functioning of the large retention areas is similar to those of the smaller retention areas as described above (Sub-activity 1.2.1.6).	-Two in D.I. Khan watershed, KPK -Two in Manchar Watershed, Sindh -Five in Chakar Lehri Watershed, Balochistan	**As above**	**As above**	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.
Sub-Activity 1.2.1.7: Build 15 recharge basins.	9 in DI Khan, KPK 3 in Manchar, Sindh 3 in Chakar Lehri, Balochistan	**As above**	**As above**	This activity will be undertaken by provincial irrigation departments. WWF-Pakistan will need to ensure continuous monitoring and supervision of this project activity to ensure compliance with the proposed mitigation measures.
Sub-Activity 1.3.1.1: Strengthen CBOs and community leaders to adopt EbA and green infrastructure interventions and implement community-based natural resource management.				WWF-Pakistan will lead this project activity **Note:** Trainings only

Sub-Activity 1.3.1.2: Organize WUGs under CBOs and build their capacity for improved water resources management.water-efficient irrigation measures including high efficiency irrigation systems (HEIS) for farms, orchards, vegetable gardens, and fodder cultivation plots**.**		For all the identified sites, a potential risk that may arise is community conflicts. This may arise in the context of the selection of project beneficiaries which could either add to existing conflicts, or lead to the creation of new conflicts among local communities. This triggers WWF's standard on "**Stakeholder Engagement.**"	To mitigate this risk: 1. A beneficiary selection criteria will be developed with local community involvement and input. For more information on the Project's Stakeholder Engagement plan, please refer to Annex 7 of the FP. 2. In order to avoid conflicts, local communities' need to be involved in the process of beneficiary selection. 3. Existing conflicts also need to be assessed so that beneficiary selection can be done in an informed manner. See Appendix 1: Safeguard Eligibility and Impacts Screening of the ESMF, which will be used to screen for these conflicts. For DI Khan the approval and consent of the tribal elders will also need to be sought through their *jirgah* system	WWF-Pakistan will lead this project activity
		For DI Khan and Chakar Lehri (Balochistan), an additional risk pertaining to the security and safety of the project team and project communities for the reasons identified above could arise.	Mitigation measures related to security and safety as detailed above will apply here.	WWF-Pakistan will lead this project activity
Sub-Activity 1.3.1.3: Establish community-based watch and ward systems under CBOs to protect the project's EbA and		A risk that may with regards to watch and ward activities**,** community watchers may raise false complaints against other local community members with whom they have past conflicts.	1. Human rights training must to be conducted for community watchers	WWF-Pakistan will lead this project activity

green infrastructure interventions from degradation.			2. Existing conflicts within local communities need to be assessed 3. Community watchers must be hired from each local community to ensure proper representation.	
COMPONENT 2: ENABLING A PARADIGM SHIFT TOWARDS EBA AND GREEN INFRASTRUCTURE IN PAKISTAN				
Activity 2.1.1: Develop an evidence-based case of the climate change adaptation benefits of EbA and green infrastructure in Pakistan.	**National level**	Stakeholder Engagement - Beneficiary selection	To mitigate any risk that they project may appear to favor or target certain people or groups for capacity building, the Project's Stakeholder Engagement Plan, as outlined in Annex 7 will be followed. A selection process as agreed upon by all participating parties will be established, taking into consideration gender, regional and tribal diversity.	WWF-Pakistan will lead this project activity
Activity 2.2.1: Develop updated procedures for the Implementation Framework of the National Water Policy, National Adaptation Plan and four Provincial Adaptation Plans for implementing EbA and green infrastructure interventions in Pakistan.		Standard on Stakeholder Engagement Conflict on beneficiary selection	**As above**	WWF-Pakistan will lead this project activity
Activity 2.3.1: Strengthen the capacity of national and sub-national staff, as well as community leaders/representatives, to apply the updated regulations under Activity 2.2.1, and implement,		Standard on Stakeholder Engagement Conflict on beneficiary selection	**As above**	WWF-Pakistan will lead this project activity

operate and maintain EbA and green infrastructure solutions for flood and water resources management.				
COMPONENT 3: ENHANCED COMMUNITY RESILIENCE AND ADOPTION OF EBA AND GREEN INFRASTRUCTURE INTERVENTIONS IN PAKISTAN'S INDUS BASIN.				
Activity 3.1.1: Develop a pipeline of sustainable climate-resilient businesses This activity will channel impact grants to improve technical capacities (such as market research, business plans development, sustainability etc) for small and community-owned businesses aligned with Recharge Pakistan objectives for the most climate vulnerable communities in the Indus Basin, particularly women's and youth groups.	**National**	Risks to be identified after selection of businesses as they will vary according to the technical capacities being requested by each business, following the process as laid out in the "Note" in the far column	The Project will develop an extensive due diligence process when selecting recipients to ensure those who are most vulnerable are those who are being targeted for the opportunity and have the ability to apply for the grants.	WWF-Pakistan will lead this project activity **Note:** The project will conduct due diligence over the business to establish the final pipeline for the project where due diligence will be conducted including: i) individual business surveys and visits; ii) identification of technical assistance needs among shortlisted businesses and projects; iii) determining financing needs; iv) business governance and management assessments; v) environmental and social safeguard screenings; and vi) risk identification.
Sub-Activity 3.2.1.1: Strengthen the capacity of small-scale farmers and people dependent on agriculture on climate-resilient agriculture and sustainable practices.		For all the identified sites, a potential risk that may arise is community conflicts. This may arise in the context of the selection of project beneficiaries which could either add to existing conflicts, or lead to the creation of new conflicts among local communities. This triggers WWF's standard on "**Stakeholder Engagement.**"	To mitigate this risk: 1. A beneficiary selection criteria will be developed with local community + CBO. involvement and input. 2. In order to avoid conflicts, local communities' + CBOs need to be involved in the process of beneficiary selection and finalization. More details about the Project's Stakeholder Engagement process can be	This activity will co-implemented by WWF-Pakistan and the Provincial Agricultural Departments

			found in Annex 7 of the FP, which includes the Stakeholder Engagement Plan. 3. Existing conflicts also need to be assessed so that beneficiary selection can be done in an informed manner. See Appendix 1: Safeguard Eligibility and Impacts Screening of the ESMF for details on how this activity will be screened for potential conflicts.	
Sub-Activity 3.2.1.2: Improve the water efficiency of farming through improved farm management and irrigation systems.	**As above**	As above	As above	As above
Sub-Activity 3.2.1.3: Introduce drought-resistant crop varieties.		For all the identified sites, a potential risk that may arise is community conflicts. This may arise in the context of the selection of project beneficiaries which could either add to existing conflicts, or lead to the creation of new conflicts among local communities. This triggers WWF's standard on "**Stakeholder Engagement.**"	To mitigate this risk: 1. A beneficiary selection criteria will be developed with local community involvement and input. For more information on the Project's Stakeholder Engagement plan, please refer to Annex 7 of the FP. 2. In order to avoid conflicts, local communities' need to be involved in the process of beneficiary selection. 3. Existing conflicts also need to be assessed so that beneficiary selection can be done in an informed manner. See Appendix 1: Safeguard Eligibility and Impacts Screening of the ESMF, which	WWF-Pakistan will lead this project activity

			will be used to screen for these conflicts. For DI Khan, Kaha, and DI Khan, the approval and consent of the tribal elders will also need to be sought through their *jirgah* system	
Sub-Activity 3.2.1.4: Improve the climate resilience of soil management practices.		As above	As above	As above
Sub-Activity 3.2.1.5: Provide water storage tanks to vulnerable agricultural communities.		As above	As above	As above

4.2.1. Country Level Conflict and Security Risks

Pakistan's security situation is best described as precarious. After a period of relative peace, the takeover of Afghanistan by the Taliban in late 2021 has seen a spillover affect with the number of terrorist attacks seeing an uptake in the past couple of months[22]. The Taliban-led government is also now providing safe haven to the anti-Pakistan insurgent group the Tehreek-e-Taliban Pakistan (TTP), also known as the Pakistani Taliban, which is further emboldening other TTP inspired militant groups in Pakistan.[23]

However, the Taliban-led Afghan government (referring to itself as the Islamic Emirate of Afghanistan) facilitated and mediated talks between the TTP and the Government of Pakistan so that the terms of a ceasefire could be agreed to. On June 18th the Islamic Emirate of Afghanistan confirmed that the "Pakistani government and the Tehreek-e-Taliban Pakistan (TTP) have reached an agreement on an "indefinite" ceasefire during ongoing peace talks in Kabul."[24]

Despite the ceasefire, attacks on military personnel are still taking place. As per a recent report presented before the National Assembly, Pakistan witnessed around 434 attacks on security forces carried out by terrorists during the first six months of 2022. The report claimed that KP reported the highest number of militant attacks on the security forces, witnessing around 247 attacks on security forces during six months of the current year. In Balochistan, 171 incidents of terrorism took place whereas 12 attacks were reported in Sindh. Punjab witnessed the least number of attacks – one – while three such incidents took place in Islamabad.[25]

Two recent terrorist related incident took place in DI Khan (one of the Recharge project sites) one on 6th July, 2022, leading to the death of two police officers[26], while another took place on the 10th of August, 2022, where a police mobile can was attacked using an improvised explosive device (IED). However, a joint search operation was launched by the police and security forces leading to two terrorists being killed.[27]

It may be noted that however that the political and security situation is different in each province / project site. In project sites such as Manchar Lake, situated in Sindh, the security situation is relatively better and law and order is not an issue.

However, in project sites such as Chakkar Lehri, situated in Balochistan the security situation is a bit more complex. Balochistan is the most underdeveloped region / province in Pakistan, despite being the largest by size, and has seen separatist movements and infighting between tribes, and between Pakistani law enforcement agencies and separatist movement, such as the Balochistan Liberation Army (BLA). Attacks are

[22] 434 terror attacks' reported against security forces, The Express Tribune, 30th July, 2022, https://tribune.com.pk/story/2368652/434-terror-attacks-reported-against-security-forces, last accessed 31st August, 2022

[23] Pakistan's Twin Taliban Problem, A. Mir, United States Institute of Peace, 4th May, 2022, https://www.usip.org/publications/2022/05/pakistans-twin-taliban-problem, last accessed 31st August, 2022

[24] Afghan Taliban confirm Pakistan-TTP 'indefinite' ceasefire, The Express Tribune, 18th June, 2022, https://tribune.com.pk/story/2362180/afghan-taliban-confirm-pakistan-ttp-indefinite-ceasefire, last accessed 31st August, 2022

[26] Two traffic cops martyred in DI Khan terror attack, The International News, 6th July, 2022, https://www.thenews.com.pk/print/971764-two-traffic-cops-martyred-in-di-khan-terror-attack, last accessed 31st August, 2022

[27] Two terrorists killed in exchange of fire near Dera Ismail Khan's Kulachi area: ISPR, Dawn News, 10th August, 2022, https://www.dawn.com/news/1704135, last accessed 31st August, 2022

largely on military personnel and Chinese nationals working in Balochistan in relation to the China Pakistan Economic Corridor (CPEC) which is part of China's Belt & Road Initiative in Pakistan.

Moreover in terms of governance structure, despite the fact that there is an elected provincial assembly, it is the Tribal elders who often indirectly decide the representation in the assembly and who shall hold positions of power and influence in the government. The recent resignation of the former Chief Minister of Balochistan, Jam Kamal Khan Alyani in October of 2021 is one recent example of this. The state's presence in Balochistan is also weak, and it is the military and para-military forces who indirectly govern the province. Moreover, systemic human rights abuses in the form of (alleged) forced disappearances, extra-judicial killings, and negligible access to justice had led to mistrust between the people of Balochistan and the state institutions, and which further adds to the deepening resentment against the government.

Even though the project has the full support of the government in Balochistan and Khyber Pakhtunkhwa, the project will need to ensure and maintain a strong level of trust with the tribes and local communities in each project site to allow for effective implementation and execution of the project activities. More details on this, and engagements that have already taken place during the FP stage of this Project design can be found in the Stakeholder Engagement Plan of Annex 7 of the FP.

The security situation in Pakistan is one of the realities of working in the county, and as such is not a ESS-specific threat, but one that has the potential to impact all aspects of the project. It has therefore been included in Section F.1. of the FP with details on the mitigation measures included there. Additionally, security related mitigation measures have been provided for in WWF-Pakistan's internal security plan (See Appendix 2 of this ESMF), which will be followed, along with consistent engagement with local security and law enforcement agencies. If at any time these agencies deem the area too unstable to work in, the Project will halt activities in the area until such time as it becomes safe to return.

4.3 Process Framework: Livelihood Restoration Measures

Any change of land use, sea use or new zonation should be based on free prior and informed consultations of the affected communities and relevant authorities, which should be conducted prior to finalizing any usage changes. This consent will be sought in the same manner as outlined in the follow section on the IPPF, using the WWF Pakistan model of Social Mobilization Plans.

In the event of project related interventions, for example zoning such as water retention area, ponds, dams, dredging, terracing, and other allied activities affect economic activities, livelihoods-related support will be provided to the households (HH) of all communities impacted by project-induced restrictions of access to natural and community resources within the targeted areas. This process will be organized in the following manner:

- *Screening*

The local Safeguards and M&E Senior Officer at the relevant project site in conjunction with the ESS Manager in the Project Management Unit (PMU) will screen all planned activities for likely access restrictions to the local community(s). These communities will include individuals with land titles and other landless communities. The screening will also take into consideration the gendered use of the natural resource in question, recognizing that men and women often use the same natural resource in very different ways and have differing relationships to the environment.

- *Social assessment*

If the screening report finds potential adverse impacts on livelihoods or limits to the use of natural resources for the local population, a social assessment (SA) will be conducted in a participatory manner. The baseline study will produce necessary information on culture and physical resources, traditional livelihood sources, gendered uses of these natural resources, types of natural resources, dependency on these resources and other related information. The SA will also assess the potential harmful effects of planned activities, the mitigation plan together with alternative options for accessing better or comparable resources.

- *Livelihood Restoration Plans*

Based on the recommendations of Screening and Social Assessment, site specific Livelihood Restoration plans shall be prepared with the full and effective participation of affected communities. These plans shall be prepared in accordance with earlier and ongoing consultations with the community and other stakeholders. The consultations and stakeholder engagement will help in customizing the LRP to the local needs.

The LRPs will be site-specific and include the following issues: (1) identifying and ranking of site-specific impacts; (2) setting out criteria and eligibility for livelihood assistance; (3) outlining the rights of persons who have been either customarily (including both legal and non-legal usage) or legally using forest, water, or land resources for subsistence to be respected; (4) describing and identifying available mitigation measures alternatives, taking into account the provisions of applicable local legislation, and the available measures for mitigation promoted via project activities and considering any additional sound alternatives, if proposed by the affected persons; (5) outlining specific agreed upon procedures on how compensation will be obtained.

- *Mitigation measures as part of the LRPs*

Consultations with the affected communities, individuals, and other stakeholders will be participatory and inclusive, including gender-inclusive, and correspond to the allocation of comparable livelihood. Eligibility criteria will be established according to guidelines provided in Chapter on Community Engagement of the ESMF/PF. Alternative livelihood schemes should be discussed, agreed upon and provided for affected persons/ groups. The livelihood options will be built on the basis of the traditional skills, knowledge, practices and the culture/world view of the affected peoples/groups and persons. Affected persons should be provided project-related livelihood support and other opportunities as part of the planned project activities. These may include activities implemented as part of the following outputs:

- Capacity development of communities for the effective enforcement and implementation of local management plans, including the development of business plans and income generating activities that will contribute to effective natural resources management.
- Training and capacity building on sustainable (climate smart, agroecological, conversion free) rice production approaches to farmers.
- Support the organization of growers, other associations, cooperatives and/or resource centers in the priority project areas so that farmers work as a unit. Provide input supply and technical advisory services necessary for the development of sustainable production, access to market information and financial services.
- Priority sustainable value chain initiatives in crop production to be supported and operationalized.
- Support the practical operationalization of selected priority initiatives that may restore livelihoods. This may also include training farmers on harvesting, threshing, drying, cleaning, weighing, milling, grading, storage, packing, etc.

- Support selected communities in priority conservation areas to implement specific forest and wetland restoration activities

An accessible and efficient grievance redress mechanism will be established and made functional (see GRM Chapter in this ESMF/PF). Special attention should be made to adapting these mitigation measures to the needs of communities. While some of them may be interested in the mitigation measures outlined above, others may necessitate an alternative approach (e.g., allocation of alternative grazing areas). Any proposed measures should be closely coordinated to ensure that they fully reflect their needs and priorities.

Compensation

It is not possible to account for all possible compensation scenarios in this ESMF, especially as these must be negotiated with affected peoples. However, the following principles will apply to all compensations:

- It shall be initially designed on the basis of the replacement value of these livelihoods (economic market value plus any replacement costs) by the relevant local project team in partnership with local communities. This figure will be verified by the ESS Manager in the PMU and a ESS/M&E officer from a different landscape to ensure the figure is as unbiased and fair as possible.
- Where compensation will include the allocation of alternative resources (e.g., alternative grazing areas), procedures will comprise identification of these resources with the active involvement of the affected persons/ communities and assistance to access these resources. This will be both a collective and individual discussion, as communities often already have delineated land in the surrounding area for particular uses. It is likely that tribal leaders and/or local government will also need to be consulted, depending on the landscape.
- Detailed procedures on how compensation should be calculated and awarded[28] will be provided in each site-specific LRP based on local conditions and in consultations with local communities and government representatives.
- Although budget has been allocated for possible livelihood costs in the project budget, if it turns out that there is insufficient budget for the creation of the LRP as agreed with communities, then the activity/activities must be redesigned in a way that no longer necessitates a LRP or the impact is lessened in a manner that a new LRP can be agreed to.

[28] From WWF'S Standard on Safeguard on Restriction of Access:

Mitigation Measures responding to potential adverse impacts related to access restriction or resettlement should:
a. Specify actions to assist affected people and communities to improve or at least restore their livelihoods, in real terms, including assistance to re-establish commercial or subsistence activities, activities aimed at capacity-building and strengthening local institutions, and at enhancing social services (e.g., health and education);
b. Detail the approach for responding to loss of assets and for loss of access to assets;
c. Take into account the cultural and spiritual relationship between people and nature, and identify activities to sustain that relationship;
d. Specify a process to address potential conflicts;
e. Describe arrangements for implementing and monitoring mitigation measures.

4.4 Indigenous Peoples Planning Framework (IPPF)

(a) IP Population of Project Sites

The IPs of the Project sites include Mohana or Mallah Communities in the Lake Manchar Area, 'Bagris' in Chaker Lehri and adjacent Areas and 'Kehal and Mores' of D I Khan areas. Their distinctive attributes have been deliberated in Section 2.4

The Indigenous Peoples who live upstream in KP and downstream in Sindh, are also called Fishing People. The Kehal and Mors of the Middle Indus Valley do not have any fishing rights. They are the least organized and least visible compared with the fisherfolk of Sindh province. The fish potential in Sindh province consists of the coastal and the inland fisheries. After the construction of the Kotri Barrage on Indus, the fishermen of downstream Sindh shifted to the upstream areas of Indus, where the Kehal and Mors live[29]. Sindhi fishermen purchase fishing permits and hire Kehal as fishing labor for low wages.

The Contamination of Indus waters is yet another threat to the survival of these communities. The urban dwellings along the Indus River discharge their effluents into the river. For example, the total effluent of Dera Ismail Khan city is discharged into the river just before the Khalsa' abode on the riverside. Residual waste from Chashma Sugar Mill is another source of river contamination in the area. The contamination threatens the fish's spawning grounds, upsets their reproductive cycle, and blocks the migration process. Apart from depleting fish and livelihoods dependent upon them, the contamination has created a drinking water crisis for the riverine peoples and for the city dwellers, which has led to a health crisis.

'Bagris' on the other hand are a nomadic tribe which resides mostly in parts of Balochistan and upper Sindh (in the areas of Shikarpur, Sukkur and Khairpur). The people of this tribe have been living in these areas for many centuries. The Bagri tribe lives as nomadic cattle herders, constructing makeshift homes on fields of landlords, where they work tirelessly on the land[30].

The fishing community resides in the form of extended families. There was no caste system, but now due to their displacements and larger reliance on the other predominant groups, these IPs have introduced a caste system. Additionally, for conflict resolution they rely on informal justice systems. An elder is chosen who calls the meeting to resolve the issues. The vulnerability of IPs have increased due to several development projects in the past such as commercial logging, construction of the dam, and increased urbanization on the bank of Indus river.

(b) Project Impacts on IPs Groups

Based upon the findings of literature review, our field visits to the area and interaction with the communities, governmental officials, representatives of CSO as well as other important stakeholders, it was found that out of all the aforementioned IPs, only the Mohana may be directly impacted by the project activities in the Manchar Lake. According to locals, these Indigenous people are around 450 families. The remaining families have moved out, and they do not live in or around the project areas. These small numbers of families thriving mainly on fishing inside the lake, could face restriction on natural resource.

Other Indigenous people including Bagris, and Kehal will not be directly impacted, as these communities are mostly spread-out and as per local community welfare organizations, these will face no potentially negative impacts from proposed project interventions.

[29] Country Technical Notes on Indigenous Peoples' Issues ISLAMIC REPUBLIC OF PAKISTAN, 2012.

[30] https://dunyanews.tv/en/Pakistan/504642-Women-Bagri-tribe-exhibit-empowerment-selling-animals-Eid-ul-Azha

(c) Mitigation Planning

The proposed project may result in restrictions of access to livelihoods and natural resources for the Mohana, which will be determined once project activity locations are finalized within the first six months of implementation and the landscape level ESS Screening has been conducted.

The local ESS & ME Senior Officer, with assistance from their project team, and in conjunction with the ESS Manager at the PMU will screen all the planned activities for likely access restrictions to the local community(s). These communities may include individuals with land titles as well as those without legal rights over the natural resource in question. This will be followed by a Social Assessment which will be conducted by the ESS Manager in cooperation with the local ESS & ME Senior Officer. After thorough consultation with the communities and other stakeholders, a IPP shall be prepared by the ESS & ME Senior Officer, with final approval of the IPP resting with the communities and final sign off resting with the ESS Manager at the PMU. These proposed steps are in line with WWF's standard on IPs.

(d) Steps for Formulating an IPP

WWF's Standard on Indigenous People requires that, regardless of whether Project affected IPs are affected adversely or positively, an IPP needs to be prepared with care and with the full and effective participation of affected communities.

The requirements include screening to confirm and identify affected IP groups in the project areas, social analysis to improve the understanding of the local context and affected communities; a process of free, prior, and informed consent with the affected IPs communities in order to fully identify their views and to obtain their broad community support to the project; and development of project-specific measures to avoid adverse impacts and enhance culturally appropriate benefits.

Minimum requirements for projects working in areas with IPs are:

- Identification of IP groups through screening.
- Assessment of project impacts.
- Consultations with affected IP communities following FPIC principles and obtaining their broad community support.
- Development of sites specific IPs plan (IPP) to avoid adverse impacts and provide culturally appropriate benefits; and
- In activities with no impact, the requirements could be limited to consultations during implementation to keep local communities informed about project activities and documentation of all consultations held.

(e) Social Assessments

WWF's Standard on Indigenous People requires screening for IPs to assess risks and opportunities and to improve the understanding of the local context and affected communities. The ESS Screening form can be found in Appendix 1. Safeguard Eligibility and Impacts Screening of this ESMF.

(f) Development of IP Plans (IPP)

Based on the results of the social assessments, an IP Plan shall be developed for each relevant project site. The contents of the IPP will depend on the specific project activities identified and the impacts these activities may have on IPs in the project area. As a minimum, the IPP should include the following information:

✓ Description of the IPs affected by the proposed activity.
✓ Summary of the proposed activity.
✓ Detailed description of IPs' participation and consultation process during design and implementation.
✓ Description of how the project will ensure culturally appropriate benefits and avoid or mitigate adverse impacts.
✓ Budget.
✓ Mechanism for complaints and conflict resolution; and
✓ Monitoring and evaluation system that includes monitoring of particular issues and measures concerning Indigenous communities.

For project activities that may result in changes in IPs' access to livelihoods, the provisions of the Process Framework (Section 4.5) should be followed.

(g) Free, Prior and Informed Consent Framework

Free, Prior and Informed Consent (FPIC) is an approach for ensuring that the rights of IPs are guaranteed in any decision that may negatively affect their lands, territories, or livelihoods. It ensures that they have the right to give or withhold their consent to these activities without fear of reprisal or coercion, in a timeframe suited to their own culture, and with the resources to make informed decisions.

FPIC is composed of four separate components:

- Free—Without coercion, intimidation, manipulation, threat, or bribery.
- Prior—indicates that consent has been sought sufficiently in advance, before any project activities have been authorized or commenced, and that the time requirements of the Indigenous community's consultation/consensus processes have been respected.
- Informed—Information is provided in a language and form that are easily understood by the community, covering the nature, scope, purpose, duration and locality of the project or activity as well as information about areas that will be affected; economic, social, cultural, and environmental impacts, all involved actors, and the procedures that the project or activity may entail.
- Consent—The right of IPs to give or withhold their consent to any decision that will impact their lands, territories, resources, and livelihoods.

The processes of consultation and obtaining FPIC will be applied to all the aspects of the project (financed under WWF) that may negatively affect the rights of the IPs and ethnic minorities. FPIC will be required on any matters that may negatively affect the rights and interests, water areas, lands, resources, territories (whether titled or entitled to the people in question) and traditional livelihoods of the IPs concerned.

Thus, FPIC is integral to the execution of the proposed project, as the project areas include diverse Indigenous communities. WWF recognizes the strong cultural and spiritual ties many IP groups have to their lands and territories and is committed to strengthening these ties in all WWF GCF funded projects. FPIC gives IPs the freedom to determine their own development path to promote conservation sustainably. The following

checklist (Box 1) may assist in helping to determine whether some Project activities may require an FPIC process:

Box 1. Checklist for appraising whether an activity may require an FPIC Process

1. Will the activity involve the use, taking or damage of cultural, intellectual, religious and/or spiritual property from IPs?
2. Will the activity adopt or implement any legislative or administrative measures that will affect the rights, lands, territories and/or resources of IPs (e.g., in connection with the development, utilization or exploitation of mineral, water or other resources; land reform; legal reforms that may discriminate de jure or de facto against IPs, etc.)?
3. Will the activity involve natural resource extraction such as logging or mining or agricultural development on the lands/territories of IPs?
4. Will the activity involve any decisions that will affect the status of IPs' rights to their lands/territories/water resources, resources, or livelihoods?
5. Will the activity involve the accessing of traditional knowledge, innovations, and practices of Indigenous and local communities?
6. Will the activity affect IPs' political, legal, economic, social, or cultural institutions and/or practices?
7. Will the activity involve making commercial use of natural and/or cultural resources on lands subject to traditional ownership and/or under customary use by IPs?
8. Will the activity involve decisions regarding benefit-sharing arrangements, when benefits are derived from the lands/territories/resources of IPs (e.g., natural resource management or extractive industries)?
9. Will the activity have an impact on the continuance of the relationship of the IPs with their land or their culture?
10. Will the interventions/activities restrict access to NTFPs, timber, lands, waters, etc. and other sources of livelihoods and community resources?

If the answer is 'Yes' to any of these questions in Box 1, it is likely that FPIC will be required of the potentially affected Indigenous peoples for the activity that may result in the impacts identified in the questions. When an FPIC process is required, a stakeholder consultation process will need to be initiated to define and agree on an FPIC process with the community or communities. The IPs who may be affected by the Project will have a central role in defining the FPIC process, based on their own cultural and governance practices. The consultation process should be launched as early as possible to ensure full, effective, and meaningful participation of IPs.

All consultations with IPs should be conducted in good faith with the objective of seeking agreement or consent. Consultation and consent is about IPs' right to meaningfully and effectively participate in decision-making on matters that may affect them. Consultations and information disclosure are integral parts of the FPIC process and any development support planning for IPs to ensure that the priorities, preferences, and needs of the Indigenous groups are taken into consideration adequately. With that objective in view, a strategy for consultation with IPs has been proposed so that all consultations are conducted in a manner to

ensure full and effective participation. The approach of full and effective participation is primarily based upon transparent, good faith interactions, so that everyone in the community is empowered to join fully in the decision-making process. It includes providing information in a language and manner the community understands and, in a timeframe, compatible with the community's cultural norms.

The affected IPs will be actively engaged in all stages of the project cycle, including project preparation, and feedback of consultations with the IPs will be reflected in the project design, followed by disclosure. Their participation in project preparation and planning has informed project design and will continue to actively participate in the project execution. Once the IPP or LRP is prepared, it will be translated into local languages (as applicable) and made available to them before implementation, including in formats other than written documents if and when requested by the communities.

WWF shall ensure adequate flow of funds for consultation and facilitation of planned activities within the IPP. Project brochures and pamphlet with infographic containing basic information such as sub-project location, impact estimates, and mitigation measures proposed, and implementation schedule will be prepared, translated into a language understandable to the IPs, and distributed among them. If literacy is low in the communities, other means of communication must also be agreed upon with them, especially targeting community members who may have lower literacy levels.

A range of consultative methods will be adopted to conduct consultation including, but not limited to focus group discussions (FGDs), public meetings, community discussions, and in-depth and key informant interviews, in addition to the censuses and socioeconomic surveys.

The key stakeholders to be consulted during screening, impact assessment; design and implementation of IPP, LRP and Process Framework (PF) include:

- All affected persons belong to IPs/marginalized groups.
- Appropriate government Departments/Ministries
- Provincial and municipal government representatives.
- Insert relevant community cooperatives, management structures, umbrella bodies, etc.
- The private sector:
- Academia representatives.

The project will ensure adequate representation of each group of stakeholders mentioned above while conducting consultations using various tools and approaches.

The views of IPs communities are to be considered during execution of project activities, while respecting their practices, beliefs, and cultural preferences. The outcome of the consultations will be documented into the periodical reports and included in project's trimester progress reports. The Project Manager with support of the ESS Manager and landscape-level ESS & ME Senior Officer(s) will also ensure that affected persons are engage in the decision-making process.

(h) Procedures to seek FPIC: Social Mobilization Plan

Project interventions and activities adversely affecting the IPs, therefore, need to follow a process of free, prior, and informed consent, with the affected IPs in order to fully identify their views and to seek their broad community support to the project; and development of project-specific measures to avoid adverse impacts and enhance culturally appropriate benefits.

Community involvement is a critical component of FPIC, as FPIC is a collective process, rather than an individual decision. In practice, FPIC is implemented through a participatory process involving all affected groups that is conducted prior to the finalization or implementation of any project activities, decisions, or development plans. FPIC is established through good faith negotiation between the project and affected IPs. A facilitator should support this process, a person who will be available throughout the Project, who speaks the necessary languages and is aware of the project context. This person may or may not be part of the PMU but should be agreeable to all parties involved.

Box 2 below outlines some generic steps to be followed for FPIC with the affected IPs in order to seek their broad community support. Please note that these are guidelines and not rigid requirements, as the communities involved may have different customs and preferences once the consultations begin.

Box 2. Steps for Seeking FPIC from Project Affected Indigenous Peoples

1. Identify communities, sub-groups within communities, and other stakeholders with potential interests/rights (both customary and legal) on the land or other natural resources that are proposed to be developed, managed, utilized, or impacted by the proposed project activity.
2. Identify any rights (customary and legal) or claims of these communities to land or resources (e.g., water rights, water access points, or rights to hunt or extract forest products) that overlap or are adjacent to the site(s) or area(s) of the proposed project activity.
3. Identify whether the proposed project activity may diminish the rights, claims, or interests identified in Step 2 above and also identify natural resources that may be impacted by this project and the legal and customary laws that govern these resources.
4. Provide the details of proposed project activities to be implemented along with their likely impacts on IPs either positively or negatively, as well as the corresponding proposed mitigation measures in a language or means of communication understandable by the affected IPs.
5. All project information provided to IPs should be in a form appropriate to local needs. Local languages should usually be used, and efforts should be made to include all community members, including women and members of different generations and social groups (e.g., clans and socioeconomic background).
6. Selection of facilitator, who will be available throughout the Project, who speaks the necessary languages and is aware of the project context and is culturally and gender sensitive. The facilitator should be trustworthy to affected IPs. It will also be helpful to involve any actors which are likely to be involved in implementing the FPIC process, such as local or national authorities
7. If the IP communities are organized in community associations or umbrella organizations, these should usually be consulted.
8. Provide sufficient time for IPs' decision-making processes (allocate sufficient time for internal decision-making processes to reach conclusions that are considered legitimate by the majority of the concerned participants)
9. Support a process to create a mutually respected decision-making structure in cases where two or more communities claim rights over a project site.
10. If FPIC is not familiar to the community, engage in a dialogue to identify existing decision-making structures that support the principles underlying FPIC.
11. Identify the community-selected representative(s) or "focal people" for decision making purpose-- identification of the decisionmakers and parties to the negotiation.

12. Agree on the decisionmakers or signatory parties and/or customary binding practice that will be used to conclude the agreement, introducing the chosen representatives, their role in the community, how they were chosen, their responsibility and role as representatives.
13. If consent is reached, document agreed upon outcomes/activities that are to be included into the project and agree on feedback and a project grievance redress mechanism. Agreements reached must be mutual and recognized by all parties, taking into consideration customary modes of decision-making and consensus-seeking. These may include votes, a show of hands, the signing of a document witnessed by a third party, performing a ritual ceremony that makes the agreement binding, and so forth.
14. When seeking "broad community consent/support" for the project, it should be ensured that all relevant social groups of the community have been adequately consulted. This may mean the project staff have to seek out marginalized members, or those who do not have decision-making power, such as women. When this is the case and the "broad" majority is overall positive about the project, it would be appropriate to conclude that broad community support/consent has been achieved. Consensus building approaches are often the norm, but "broad community consent/support" does not mean that everyone has to agree to a given project.
15. When the community agrees on the project, document the agreement process and outcomes including benefits, compensation, or mitigation to the community, commensurate with the loss of use of land or resources in forms and languages accessible and made publicly available to all members of the community, providing for stakeholder review and authentication.
16. The agreements or special design features providing the basis for broad community support should be described in the IPs Plan; any disagreements should also be documented; and
17. Agree on jointly defined modes of monitoring and verifying agreements as well as their related procedures: how these tasks will be conducted during project implementation, and the commission of independent periodic reviews (if considered) at intervals satisfactory to all interest groups.

In terms of engaging with IPLCs, WWF-Pakistan follows a strategy called the "Social Mobilization Plan", which will also be used for this GCF project. One of the first steps in this process is to mobilize and organize project communities into CBOs (Community Based Organizations) or VBOs (Village Based Organization). These CBOs and VBOs essentially ensure the representation, participation, and inclusion of IPLCs and local leaders during the entire span of the project duration.

Once organized and registered, a needs assessment is conducted where the CBOs provide a list of needs. This needs assessment is conducted following the guidance as outlined above, being led by the CBOs with any requested assistance coming from the project team while ensuring the full and effective participation of the communities. This list is then shared with the project team in the form of a resolution, and whatever needs the project can meet is then identified by the project and shared with the CBO. Once the list is shared, and the CBO approves the same, the project team conducts initial feasibilities to assess risks that could arise as a result of the implementation of the activity. These risks, associated benefits, and proposed mitigation measures are then shared with the CBO and documented in the FPIC (Free Prior Informed Consent) form. The CBO is then invited to provide feedback, and propose amendments.

If the CBO approves the activity, after the incorporation of the feedback received, the project team and the CBO enter into an agreement called a "Terms of Partnership" (TOP). This TOP provides a list of the site-specific

interventions; the contributions that each party will make for the implementation of the activity- i.e. what WWF will provide, such as funds, HSSE equipment, raw materials, staff, etc, and what the CBO will provide, such as access to land, labour, raw materials, local skills and knowledge etc.; the timeline; and the FPIC consent from as an annex. Once signed, the implementation of the activity begins. This whole process involves the inclusion of local communities and their tribal indigenous knowledge which are then put into practice (if feasible) on the field. This process also aids in identifying the local needs and provides a mechanism to incorporate indigenous knowledge into the planning, execution and decision-making processes. This also provides communities with a legal structure through the CBOs existence in the long run, which in turn is a means for establishing ownership and to ensure sustainability of the project interventions. WWF-Pakistan's Social Mobilization Plan, related TORs, ToP, and FPIC consent forms are included in this ESMF as Appendix 6.

It is important to note that although the Mohana are the only specified Indigenous Peoples group in the project landscapes, the project will follow this Social Mobilization Plan for all affected communities due to their close cultural and livelihood ties to the landscapes in question, as well as strong governance systems that must be engaged effectively for the project to succeed.

(i) Disclosure

The final IPPF and PF and any site specific IPPs and LRPs will be disclosed on the website of the executing agency (WWF's) and the website of WWF and made available to affected IPs; information dissemination and consultation will continue throughout project execution. Summaries of IPPs and mitigation measures proposed in IPPs will be translated into Sindhi, Balochi, and Saraiki languages, plus paper copies will be made available to the affected persons in the office of relevant local authorities.

(j) Institutional and monitoring arrangements

The ESS Manager within the PMU will be responsible for overseeing the development and implementation of the IPP, while the ESS/M&E Senior Officer in the landscape will be responsible for on-the-ground development and implementation of the IPP with the communities.

The ESS Manager will periodically report on the implementation of the IPPF/IPP to the Project Manager, WWF- Pakistan and WWF US. Monitoring and reporting will be undertaken together with reporting on the other ESMF commitments (as indicated in Section 5.4).

4.5 Cultural Heritage Mitigation Measure

During the field visits to different sites, the ESMF Consultant team observed no significant impact on the cultural heritage except the possibility of the effects on a few shrines in the D G Khan area and around Lake Manchar, as the lake's banks and vicinity are home to ancient archaeological sites Ghazi Shah, Wahi Pandhi Ali Murad Mound. The sites of Lal Chatto, Mashak Lohri and Lakhiyo situated along the edge of Lake Manchar are the most ancient sites, which date from the Harappan Culture. However, these archeological sites will not be impacted in any way by Project activities.

The consultant team also conducted a survey of the communities, asking about sites of historical and cultural significance to create a baseline of information for the PMU to further elaborate on during project implementation once final locations are chosen. Information from that survey is found in the chart below:

Cultural/historical heritages sites within the project area	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Blank	136	43.73%	49	22.69%	185	35.04%
Forest Reserve	6	1.93%	5	2.31%	11	2.08%
None	27	8.68%	34	15.74%	62	11.74%
Other	79	25.40%	65	30.09%	144	27.27%
Sacred Grooves	0	0.00%	8	3.70%	8	1.52%
Shrines	50	16.08%	46	21.30%	96	18.18%
Stream	13	4.18%	9	4.17%	22	4.17%
Total	311	100.00%	216	100.00%	528	100.00%

The following mitigation measures in line with WWF's Standard on Cultural Heritage are proposed.

1) The initial step for determining whether impacts exist and for avoiding such adverse impacts, is a baseline study and impact assessment, which shall be part of the landscape level ESS Screening conducted by the ESS & ME Sr. Officer and reviewed by the ESS Manager within the PMU.
2) Based upon the finding, the focus will be to prevent the negative impacts of the projects at the design stage to ensure that the planned activities do not harm the physical or cultural heritage.
3) Ensuring that an impact assessment has been completed. This will enlighten the likely impacts upon Indigenous Peoples' cultural heritage. In some jurisdictions, specific cultural impact assessments are required by law
4) Developing a cultural heritage management plan prior to project activities or significant changes e.g., expansion on operations. The plan should preserve both tangible and intangible cultural heritage.
5) In order to protect both tangible and intangible cultural heritage, the following should be part of the assessment:
   - ❖ Including members from the community/ cultural group in the ESS assessment
   - ❖ Consulting widely with the community to understand concerns
   - ❖ Including the community representatives on environmental/cultural monitoring committees and involving them in monitoring data activities e.g., water samples
   - ❖ Including community members or CSO representative in environmental rehabilitation activities e.g., finding and preserving native flowers, fire management and wildlife management

4.6 Pest Management Plan

Even though the project does not directly promote the procurement and use of pesticides, there are chances that the aforementioned interventions could lead to the procurement and use of pesticides. Due to these activities, Pest Management is planned as part of the ESMF to conform to WWF's Environment and Social Safeguards Framework. The plan is in fact guiding principles and includes a five-point approach which are outlined in the ensuing section.

1. Promoting the adoption of Integrated Pest Management (IPM) practices through farmer education and training alongside motivating farmers to eschew the use of chemical pesticide and practices, while the adoption and use of botanical or organic pesticides shall be encouraged.
2. Allocating adequate resources to implement project related Plant Protection policy, and
3. Increase IPM awareness among farming community and project staff
4. Ensuring no project funds are spend on pesticides prohibited in WWF's SIPP
5. Monitoring of excessive pesticide use in farming and rural communities

5. Implementation Arrangements

5.1. Procedures for the Identification and Management of Environmental and Social Impacts

The following is an exclusion list of activities that will not be financed by the GCF Pakistan Recharge project. This includes activities that:

1. Lead to land management practices that cause degradation (biological or physical) of the soil and water. Examples include, but are not limited to: the felling of trees in core zones and critical watersheds; activities involving quarrying and mining; commercial logging; or dredge fishing.
2. Negatively affect areas of critical natural habitats or breeding ground of known rare/endangered species.
3. Significantly increase GHG emissions.
4. Use genetically modified organisms or modern biotechnologies or their products.
5. Involve the procurement and/or use of pesticides and other chemicals specified as persistent organic pollutants under the Stockholm Convention or within categories IA, IB, or II by the World Health Organization.
6. Develop forest plantations.
7. Result in the loss of biodiversity, alteration of the functioning of ecosystems, and introduction of new invasive alien species.
8. Involve the procurement or use of weapons and munitions or fund military activities.
9. Lead to private land acquisition and/or physical displacement and voluntary or involuntary relocation of people, including non-titled and migrant people.
10. Contribute to exacerbating any inequality or gender gap that may exist.
11. Involve illegal child labor, forced labor, sexual exploitation or other forms of exploitation.[31]
12. Adversely affect indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical and non-physical or intangible) inside and/or outside the project area.
13. Negatively impact areas with cultural, historical or transcendent values for individuals and communities.

[31] In Pakistan, as per the "Restriction on Employment of Children Act", a "child" is defined as a "person who has not attained the age of fifteen years." This Act expressly prohibits the employment of a child in any "establishment", which means to include any industrial, commercial or agricultural establishment, factory, mine, workshop, business, trade, undertaking, and place where any economic activity including moulding and manufacturing process is carried on; and, includes charitable and welfare organizations, whether run for profit or otherwise and any other establishment, class of establishments or workplace notified by the Government in the official Gazette. However, the law permits the employment of "adolescents", that is an person who is over the age of 15 and under the age of 18 in any work that is not deemed hazardous . Hazardous work" means the work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of adolescents and is mentioned in the Schedule to the law.

Annually during the drafting of the Annual Work Plan and Budget, and in advance of the initiation of any project activity that has not been screened during the AWPB process, the Site Manager and ESS & ME Sr. Officer should work together to fill in detailed information regarding the nature of the activity/ies and its specific location in the Safeguards Eligibility and Impacts Screening form (Appendix 1 of this ESMF), soliciting the necessary information from the executing partners.

In the case of the Pakistan Recharge project, "project activity" will mean that the project should be screened at the Output level for each individual landscape. This means that all activities under a given output will be considered together in the same screening, but they must be considered within the context of one of the 4 project sites . This means that each output may have four screenings conducted- one for each of the four project sites. However, it is not guaranteed that each output will progress at the same rate in a given site, so only those outputs that are relevant to a given landscape in a given year will be screened. Because this project will work in four distinct landscapes with very different stakeholders, it is necessary to screen the landscapes individually, even though the Outputs are applicable to the entire scope of project activities.

Part 1 of this form comprises of basic information regarding the activity; Part 2 contains basic "pre-screening" questions. If the response to any of the questions in these two parts is *"Yes,"* the activity will be deemed ineligible for funding under the Project. The executing partners will thus be required to change the nature or location of the proposed activity so that it complies with all safeguard requirements and all responses at the *Safeguards Eligibility and Impacts Screening* form are negative.

If the activity is deemed eligible according to Part 2, an environmental and social screening procedure will be conducted in accordance with Part 3 of *Safeguard Eligibility and Impacts Screening* format, which is based on the WWF's SIPP and applicable Pakistan laws and regulations. The executing partners shall respond to the specific questions in Part 3 of the form, provide general conclusions regarding the main environmental and social impacts of each proposed activity, outline the required permits or clearances, and specify whether any additional assessments or safeguard documents (e.g., ESMP) should be prepared, per the outcomes of the Screening. The relevant process and procedures have been specified in Appendix 1.

The ESS Manager within the PMU, in partnership with the landscape level ESS & ME Sr. Officer should undertake the screening of each activity. If the screening process indicates that additional assessments or safeguards documents shall be prepared, these will be required to be completed by the ESS Manager prior to the start of activities.

If the screening reveals adverse environmental or social impacts that may arise from the planned activity, an ESMP should be prepared. The ESMP should be prepared by the ESS Manager, in collaboration with the landscape level Site Managers and ESS & ME Sr. Officers. Following the creation of the ESMP or other relevant safeguards management plan, the plan(s) must be reviewed and cleared by the ESS Specialist within the WWF GCF AE. No funding will be disbursed for project activities prior to the clearance of such activities by the ESS Specialist and the WWF GCF AE. Once this clearance has been given, the relevant safeguard management plan(s) must be disclosed for a 30-day period in both English and the appropriate local languages on the WWF US GCF and EEs websites. In the cases of those landscapes where indigenous peoples are located, the documents must also be disclosed for 45 days locally, in a language and manner suitable to those communities.

Once approval has been given by the WWF GCF AE and documents have been disclosed for the appropriate times and in the appropriate ways, ESMP or other Safeguards Plan(s) implementation should begin, with any necessary changes or additions to project activities reflected in the AWPB. Monitoring of the implementation of these ESS plans will be conducted in the same manner as outlined in the Monitoring Section of this ESMF.

5.2. Guidelines for ESMP Development

In case that the Environmental and Social screening process identifies any adverse environmental or social impacts as a result of specific project activities, the ESS Manager at the PMU in collaboration with the Site Mangers and ESS & ME Sr. Officers should develop a site- and activity-specific ESMP. The ESMP should be prepared before the initiation of the project activity and closely follow the guidance provided in this ESMF.

The ESMP should describe adverse environmental and social impacts that are expected to occur as a result of the specific project activity, outline concrete measures that should be undertaken to avoid or mitigate these impacts, and specify the implementation arrangements for administering these measures (including institutional structures, roles, communication, consultations, and reporting procedures).

The structure of the ESMP should be as follows:

(i) ***A concise introduction***: explaining the context and objectives of the ESMP, the connection of the proposed activity to the project, and the findings of the screening process.

(ii) ***Project description:*** Objective and description of activities, nature, and scope of the project (location with map, construction and/or operation processes, equipment to be used, site facilities and workers and their camps; bill of quantities if civil works are involved, activity schedule).

(iii) ***Baseline environmental and social data:*** Key environmental information or measurements such as topography, land use and water uses, soil types, and water quality/pollution; and data on socioeconomic conditions of the local population. Photos showing the existing conditions of the project sites should also be included.

(iv) ***Expected impacts and mitigation measures:*** Description of specific environmental and social impacts of the activity and corresponding mitigation measures.

(v) ***ESMP implementation arrangements****:* Responsibilities for design, bidding, and contracts where relevant, monitoring, reporting, recording, and auditing.

(vi) ***Capacity Need and Budget:*** Capacity needed for the implementation of the ESMP and cost estimates for implementation of the ESMP.

(vii) ***Consultation and Disclosure Mechanisms:*** Timeline and format of disclosure.

(viii) ***Monitoring:*** Environmental and social compliance monitoring with responsibilities.

(ix) ***Grievance Mechanism:*** Provide information about the grievance mechanism, how PAPs can access it, and the grievance redress process.

(x) ***A site-specific community and stakeholder engagement plan:*** In order to ensure that local communities and other relevant stakeholders are fully involved in the implementation of the ESMP, a stakeholder engagement plan should be included in the ESMP. Specific guidelines on community engagement are provided in Section 5.8 below.

5.3. Guidance for SEAH Risk Mitigation

According to the results of the screening provided in Appendix 1 of this ESMF, a detailed plan to address SEAH risks will be developed within the first six months of project start-up, using both information already included in the GAP and updated procedures for SEAH-specific grievances outlined in Section 5.8, Grievance Redress Mechanism. This will include:

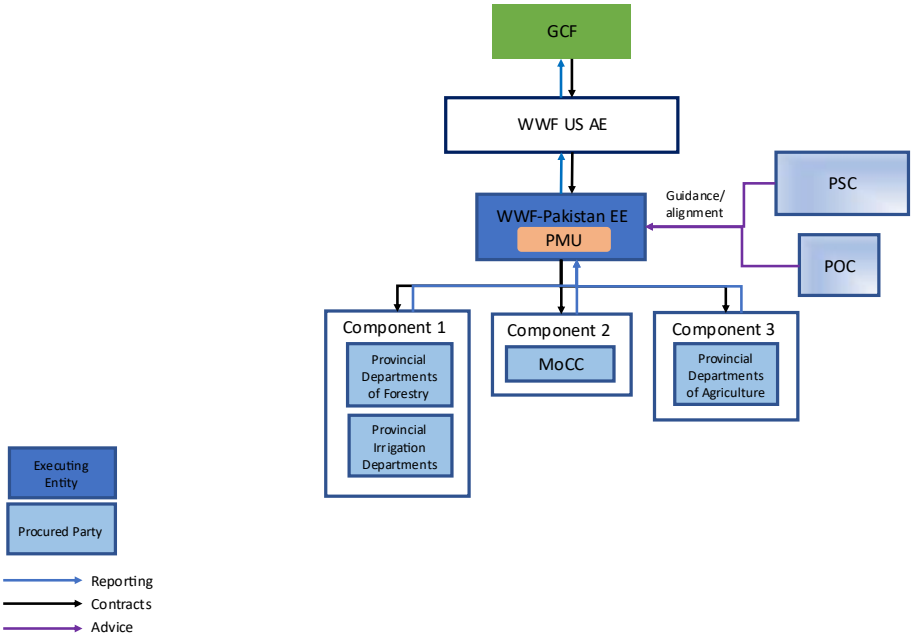
- Inclusion of any identified SEAH-related risk mitigation measures into the project's annual workplan and budget and annual reporting requirements.
    - This will require the participation of the entire PMU in reviewing any identified risks and mitigation measures to ensure that all staff understand their responsibilities and the responsibilities of EEs, project partners, contractors, and any other entities who will receive GCF funding for this project.
- Development of a communication mechanism between the local project staff and the PMU's Gender Specialist in order to address in a timely manner any SEAH situation that may arise at the project site level. This early warning system will be included in the project's security protocol, and will require:
    - Reporting any such grievances or challenges within a defined time period of no less than 5 business days. This shall hold true even if grievances are informally submitted (i.e., not through an official GRM)
    - The confidentiality of anyone who has received a complaint or become aware of a SEAH-related situation, including protecting the personal identifiable information of all parties-both the potential victim(s) and potential perpetrators(s).
- Strengthen the capacities of the project's implementing partners on prevention of GBV and SEAH as well as on WWF policies and codes of conduct to address SEAH risk. These trainings will be done in partnership by the project's Gender and ESS Managers and should include:
    - Training within the first 3 months of project implementation that have been prepared with oversight and final approval from the WWF GCF AE Safeguards and Gender Leads.
    - Mandatory training for all project staff and implementing partner staff who will be involved in the GCF-financed activities.
- Strengthen the capacities of the technical/management committees in each project site, so that they can establish rapid response mechanisms to address issues associated with threats to environmental leaders and gender-based violence. This includes, but is not limited to:
    - In cases of such threats, provide them with additional resources to ensure a timely response that is focused on the well-being of anyone who is threatened.
    - Provide the same GBV and SEAH training to these committees that the implementing partners will receive.

5.4. Stakeholders' Role & Responsibilities in the ESMF Implementation

(a) General

The institutional arrangement (Figure 58) for project implementation includes WWF as the GCF Agency, World Wildlife Fund as the Lead Executing Agency, and a Project Steering Committee.

Figure 58



World Wildlife Fund Pakistan is the Lead Executing Entity for the project, which will be responsible for overseeing the implementation of project activities, including Component 1: Proofs of concept for EbA and green infrastructure interventions as efficient and effective solutions for flood and drought risk reduction in Pakistan; Component 2: Enabling a Paradigm Shift towards Ecosystem-Based Adaptation (EbA) and Green Infrastructure in Pakistan; and Component 3: Enhanced community resilience and adoption of EbA and green infrastructure interventions in Pakistan's Indus Basin . As part of its responsibilities, WWF Pakistan will host a Project Management Unit (PMU). The PMU will be responsible for the day-to-day management of the project, including project administration (including issuing sub-grants), project management, and monitoring and reporting.

The PMU will be comprised of a Project Director, Operations Manager, Administration & Security Manager, EbA Specialist Manager, Environmental Economist Manager, Contract Managements Coordinator, Communications Manager, M&E Manager, Environment and Social Safeguards Manager, Gender Manager, Sr. HR Officer, Contracts Management Officer, a Sr. Research Officer as well as security support and administrative support. The PMU will be accountable to a Project Steering Committee (PSC).

There will be three **Provincial Implementation Units (PIUs)** hosted within WWF-Pakistan's regional offices located in the Provincial Capitals (Khyber Pakhtunkhwa, Sindh and Balochistan), and hosting a total of 46 staff. These units will coordinate the implementation of project activities under Components 1 and 2 through the provincial government departments, guided by the Provincial Oversight Committees (POCs) described below. The PIUs will be headed by Regional Managers (one for each of the four provinces), full time WWF-Pakistan staff, each reporting to the PM in Islamabad.

Site Implementation Units (SIUs) will be based at field offices in the following locations: i) DI Khan Watershed (this office will cover the DI Khan and Ramak Watershed project areas; ii) Chakar Lehri Watershed; and iii) Manchar Lake Watershed. These offices will host full-time WWF-Pakistan staff who will report directly to the respective Regional Managers of the PIUs. The staff at field offices will be responsible for on-the-ground implementation of project activities and supervising the service providers and procured parties responsible

to execute specific project activities. The SIUs will also provide technical support Community Based Organizations (CBOs) located in the project areas.

Provincial Oversight Committees (POCs) will be established in each of the four provinces to support the PSC and ensure ownership at the provincial level and by key government line departments. The POCs will be chaired by the Provincial Planning and Development Department who will also represent their Province in the PSC and include representation from appointed Provincial Focal Points from the Provincial Departments of (1) Irrigation, (2) Forest, (3) Wildlife, (4) Fisheries, (5) Environment, and (6) Agriculture. Provincial Oversight Committees (POCs) will be critical in facilitating engagements between the relevant environmental protection agencies, securing government buy-ins, and driving approval/decisions at the national and provincial levels related to adopting the updated procedures.

The Project Steering Committee (PSC) will consist of 12 members to provide technical guidance to the Project Management Unit (PMU), as well as the Provincial and Site Implementation Units (PIUs and SIUs, respectively) and ensure that the Recharge Pakistan Project continues to align and help meet Pakistan's national climate objectives. Additionally, the PSC will: i) review and endorse annual work plans and budgets; ii) provide expert guidance on the project strategy and endorse any changes during implementation; iii) support the PMU with identifying and managing project-related risks; iv) support communication and dissemination of project outcomes to beneficiaries; v) provide strategic and policy guidance to ensure alignment of the project with national climate change regulations and plans; and vi) ensure that EbA and green infrastructure interventions are integrated in the main development agenda of the Government of Pakistan (GoP) at national and sub-national levels.

WWF-US: WWF-US, through its WWF-Pakistan Agency will: (i) provide consistent and regular project oversight to ensure the achievement of project objectives; (ii) liaise between the project and the GCF Secretariat; (iii) report on project progress to GCF Secretariat (annual Project Implementation Report); (iv) ensure that both GCF and WWF policy requirements and standards are applied and met (i.e. reporting obligations, technical, fiduciary, M&E); (v) approve annual workplan and budget; (vi) approve budget revisions, certify fund availability and transfer funds; (vii) organize the terminal evaluation and review project audits; (viii) certify project operational and financial completion, and (ix) provide no-objection to key terms of reference for project management unit.

Local Advisory Committee(s): These will be multistakeholder platform consisting of community representatives and local officials of Local Government, Local Administration, Irrigation Department, Command Area Development Office, Rodh khohi System officials, community representatives, IPs representatives, and women representatives. This is based on participatory approach for establishing local ownership and say in the project. This forum will support project strategies, workplan and implementation from the perspectives of the project partners, as well as to ensure wider outreach to the respective constituencies of the project partners.

Implementing partners: The Provincial Governments are responsible for the administration of Pakistan's four Provinces with departments within each Provincial Government responsible for different thematic areas and sectors. Governance over natural resources including forests and waterways in Pakistan is highly decentralized leaving Provincial Government and Departments largely responsible for the management of ecosystems and addressing climate change threats within their individual jurisdictions, while ensuring provincial level interventions align with national policies and regulations. Under the Recharge Pakistan Project, WWF Pakistan will coordinate the execution of activities under Components 1 with the Provincial

Department of Irrigation for those activities related to EbA in waterways, wetlands, natural ponds, and lakes, and green infrastructure development, the Department of Forestry for reforestation and improved forest ecosystem management, and the Department of Agriculture for activities in livelihood development and agricultural resilience.

(a) Safeguards Implementation

Specific arrangements and responsibilities related to the implementation of environmental and social safeguards requirements, as stated in this ESMF/PF are as follows:

Lead Executing Entity:

- Will be responsible for ensuring environmental and social safeguards are implemented.

Project Steering Committee:

- Oversight of compliance with safeguards commitments.
- Support and specific recommendations on specific safeguard issues as/if needed.

WWF-Pakistan:

- Overall oversight and monitoring of compliance with safeguards commitments.
- Support and specific recommendations on specific safeguard issues.
- Disclosure of safeguards documents on website

PMU:

- Implementation of Safeguard requirements and supervising ESMF implementation and other safeguard plans at the site/landscape levels.
- Provision of safeguard reports to the Executing Agency.
- Implementation of Grievance Redress Mechanism (GRM) and reporting of any grievances filed to the WWF AE team.
- Disclosure of safeguards documents to local stakeholders and communities.
- Reporting on safeguards implementation and compliance to the PSC and WWF GCF Agency.

Environmental and Social Safeguards Manager within PMU:

Review annual work plans and budgets and analyze planned community/individual sub-projects and their environment/social impacts, in order to identify safeguards risks and initiate screenings of activities.

- Support Safeguards/M&E Sr. Officers at the site levels in the implementation of safeguards commitments and screening project activities.
- In partnership with the M&E Manager, provide oversight and support to the six site-level Safeguards/M&E Sr. Officers.
- Prepare and contribute to safeguards documents as necessary in accordance with the ESMF/PF, and in close collaboration with the PMU and LCU Coordinators.
- Assist in preparation and provide sign off to site-level ESMPs, IPPs and other safeguard plans.
- Ensure that consultations with local communities are conducted in an inclusive and participatory manner and are well documented.
- Monitor the state of safeguards implementation, and ensure that sub-projects are implemented in accordance with best practices and guidelines set out in the ESMF/PF.
- Provide oversight and coordinate the Socio-Economic surveys to identify Project Affected People.
- Identify and consult with all the stakeholders involved in environment and social related issues in the Project.

- Operate the project's Grievance Redress Mechanism (GRM), including compiling and reporting on project-related grievances, monitoring grievance resolution, and closing the feedback loop with the complainant.
- Conduct field visits as necessary to monitor the implementation of project activities and their compliance with safeguard requirements.
- Provide capacity support to the PMU, LCUs, and other project-related stakeholders on environmental and social issues.
- Provide execution assistance and advise the Project Director as necessary on safeguards related issues including adaptive management.
- Report on overall safeguards performance to the Project Steering Committee, WWF GCF Agency, and other stakeholders, as necessary.

Site-level Safeguards/M&E Officers (3 positions):

- Responsible for on-the-ground implementation of the ESMF and related plans once they have been finalized.
- Prepare and contribute to safeguards documents (ESMP, IPP, PF, etc) as necessary in accordance with the ESMF/PF, and in close collaboration with the PMU and LCU Coordinators.
- Conduct consultations with local communities in an inclusive and participatory manner and are well documented.
- Conduct information gathering to effectively complete Site level ESS Screenings (Appendix 1) and coordinate Socio-Economic surveys to identify Project Affected People.
- Disseminate information on the project's Grievance Redress Mechanism (GRM), and be a local point of contact for anyone wishing to submit an in-person grievance. Play role in any investigation or information gathering about a complaint as necessary, and play role in closing the feedback loop with the complainant.
- Coordinate closely with the Community Mobilization Officers to ensure consultations align with the ESMF and related Safeguards policies.

5.4. Monitoring

The compliance of Project activities with the ESMF will be thoroughly monitored by various entities at multiple stages of preparation and implementation. This section describes the Monitoring Mechanism at various levels.

- ***Monitoring at the project level***

The overall responsibility for implementing the ESMF and for monitoring compliance with the Project's environmental safeguard activities lies with the PMU. The Environment and Social Safeguards (ESS) Manager within the PMU shall oversee the implementation of all field activities and ensure their compliance with the ESMF. The ESS Manager shall also provide the executing entities and other partners with technical support in conducting environmental and social screenings and preparing ESMPs and any other necessary documentation. The ESS Manager shall also monitor the project's grievance redress mechanism (GRM) and assess its effectiveness (i.e., to what extent grievances are resolved in an expeditious and satisfactory manner). The ESS Manager will also be responsible for reporting on overall safeguards compliance to the 'Recharge Pakistan' PMU officials, the Project Steering Committee, and WWF GCF Agency.

Monitoring at the field activity level

The three ESS/M&E Sr. Officers at the site levels shall closely monitor all field activities and ensure that they fully comply with the ESMF and with the terms and conditions included in the environment clearances issued

by concerned authorities. They are also fully responsible for the compliance of all external contractors hired at the local level and service providers employed as part of the project with the safeguard's requirements outlined in the ESMF/PF and ESMP (as applicable). The ESS/M&E Sr. Officers will provide the ESS Manager with monthly monitoring reports.

Disbursement of project funds will be contingent upon their full compliance with the safeguard's requirements.

- ***Monitoring at the agency level***

WWF Pakistan as the project's Executing Entity is responsible for overseeing compliance with the ESMF.

In order to facilitate compliance monitoring, PMU of the project under the supervision of WWF- Pakistan will include information on the status of ESMF implementation in two reports: The Annual Performance Report, which is first submitted to the WWF US GCF Agency for approval and is subsequently submitted to the GCF Secretariat, and the six-monthly Mid-year Technical Review, which is submitted to the WWF US GCF Agency using the same template as the GCF Annual Performance Report (APR) to maintain a more regular flow of reporting to the Agency for effective monitoring and adaptive management purposes.

5.5. Community Engagement

Community consultation has been an integral part of these assessments as well as the proposed project design and will be conducted as a continuous process throughout the project cycle. This section describes in brief the community engagement during project preparation and implementation. For full details, please see Annex 7 of the FP.

(a) Community engagement during Project Preparation

The project design process involved in-depth engagement with key stakeholders in the project. Full details regarding workshops, stakeholder meetings, field-level consultations (including meetings with a range of local stakeholders, community groups, site visits, field inspections, and focus group discussions, presentations and interactions are provided in Annex 7 of the FP. The close engagement of stakeholders in the project preparation process as presented above ensured an important level of ownership across the various project partners and beneficiaries, and therefore an important basis for the multi-sectoral and multi-stakeholder approach foreseen for the project.

(b) Community engagement during ESMF/PF Preparation

The DevCon team was responsible for the preparation of ESMF. IRS also assisted them to hold consultations and focus group discussions on March and April 2022 with 300 plus stakeholders at the six project sites. During field visits, DevCon consultant also engaged with community representatives in all of the four sites. Stakeholders involved included village leaders/authorities, farmers, livestock keepers, fishers, and other stakeholders from villages in the sites. Various government officials were also contacted at the District/ Tehsil level, officers from different departments (Agriculture, Livestock, Natural Resources, Forest, Environment, Community Development) related to the project. The objectives of consultations were to:

- Inform communities about project objectives and activities.
- Discuss and assess possible adverse impacts and collect their views to avoid or mitigate them.
- Discuss and assess potential project benefits and how these can be enhanced.

Local communities and stakeholders were informed about the consultation meeting, venue, and the agendas through village authorities. All stakeholders were encouraged to speak and provide feedback about the proposed project activities. The consultation meeting started with the consent of the participants present. At the beginning of each meeting, overall objectives and expectations from the meeting were shared and participants introduced themselves. After the introduction session, brief information about the key objectives, scope of the project, its benefit and impacts was shared with the participants. The meetings with local communities in the project areas were conducted in local languages.

Consultations were focused on identifying adverse impacts of the project and options to avoid or mitigate them and to assess potential project benefits and how these can be enhanced in favor of local communities. All participants, both male and female, were encouraged express their views, concerns, and suggestions regarding the proposed project. All the concerns, comments and feedback provided by the participants of each consultation meetings have been noted and reflected in this document as far as practicable. Overall, project affected communities were supportive of the planned project activities.

(c) Community engagement during project implementation

The communities residing in and around the project area are the ultimate recipient of project impacts and benefits, and therefore key stakeholders. Therefore, the interventions need community support and participation in order to succeed. Thus, a participatory process and community consultations approach engaging government authorities, water right holders, tribal chiefs, Rodh Kohi official, Irrigation officials, Command Area Development Authority, and stakeholders at diverse levels will provide substantial information on the patterns of resource use of local affected communities/groups and persons, which will provide accurate information about which groups/individuals will be affected most by project activities. The implementation of the project involves a large number of stakeholders, at distinct levels and from different sectors of society. The project design process involved a process of clarifying and confirming the various roles and responsibilities of these stakeholders, which will be laid out in site-specific Stakeholder Engagement Plans. The WWF Standard on Stakeholder Engagement promotes an inclusive process to support the development of strong and constructive relationships that help to identify and manage risks and encourage positive outcomes for stakeholders and project outcomes. The Standard requires the EE to:

- Engage stakeholders throughout the life of the project;
- Communicate significant changes and consult/seek input on possible mitigation measures related to new potential risks and impacts;
- Establish a grievance redress mechanism and register and respond to grievances throughout project execution;
- And disseminate information in a way that is relevant, transparent, objective, meaningful and easily accessible.

Project affected communities will be engaged in advance of the implementation of each activity that may affect their interests, entitlements, and livelihoods. Such activities should be identified by the PMU's ESS Manager and site level Safeguards/M&E Sr. Officers by going through the environmental and social safeguards screening process. If the screening reveals any adverse environmental or social impacts that may result from a planned activity, a community consultation should be organized in advance of the implementation of this activity, in order to mitigate its adverse impacts. Activities that result in restriction or loss or livelihood should trigger the development of site-specific livelihood restoration plans (as indicated in section 4.5 (PF) above).

Community members that should be engaged in consultations are those persons who, as a direct consequence of an activity or sub-project would, without their informed consent or power of choice either:

(a) lose their assets or access to assets or access to community and natural resources,
(b) or lose a source of income or means of livelihood, whether or not they physically relocate to another place.

For activities that may result in restrictions or loss of access to livelihood resources, a participatory process will be followed to identify people, groups, tribal elders, or households, who should participate in the livelihood restoration process. All of the proposed livelihood restoration activities, interventions, and initiatives within the LRP will be developed in consultation with the affected communities.

Implementation of each of these will also be conducted with full transparency and disclosure. Further details on the development of LRPs are provided in section 4.5-LRP of this ESMF/PF.

Vulnerable and marginalized groups should be actively engaged in project-related consultations and in the development of LRPs, since their role in natural resource management, livelihood interventions, project supported incentive and benefit sharing make them vital to the process. These groups include:

- Women (especially widows and female- -headed households), youth, disabled individuals, elderly (especially single-headed households).
- IP/Nomadic groups (Kehal, Bagri, and Mohana), especially their elders, who may not be present in communities at all times.

5.6. Communications and Disclosure

All affected communities and relevant stakeholders shall be informed about the ESMF requirements and commitments. The executive summary of the ESMF as well as the IPPF, PF and SEP will be translated into Sindhi, Saraiki, Pushto Punjabi, and Balochi languages. These should be made available along with the ESMF and on the websites of WWF, as well as the websites of the WWF- Pakistan. Hard copies of the ESMF and SEP will be placed in appropriate public locations and at WWF Pakistan offices. Additionally, due to the low literacy level among many of the communities, especially women, the information contained in the ESMF, SEP, IPPF and PF will be disclosed locally in person, in a manner that is appropriate for those with low literacy. The Project Manager, ESS Manager, and Gender Specialists at the PMU will be responsible for raising community awareness regarding the requirements of the ESMF and will also ensure that all external contractors and service providers are fully familiar and comply with the ESMF and other safeguards documents.

During the implementation of the project, ESMPs specific to all of the activities under a specific Output in a given landscape shall be prepared in consultation with affected communities and disclosed to all stakeholders prior to project concept finalization. All draft ESMPs shall be reviewed and approved by WWF Pakistan in consultation with the PSC and the WWF GCF Agency in advance of their public disclosure. The PMU must also disclose to all affected parties any action plans prepared during project implementation, including gender mainstreaming. Disclosure should be conducted in a manner that is meaningful and understandable to the affected people. The disclosure requirements are summarized in Table 4 below.

Table 4: Disclosure framework for ESMF related documents

Documents to be disclosed	Frequency	Where
Environment and Social Management Framework	Once in the entire project cycle. Must remain on the website and	On the website of WWF-US GCF Agency, WWF-Pakistan and the GCF Secretariat. Copies should be available

	other public locations throughout the project period.	at PMU office, and in local municipal offices in project areas, in languages understandable to communities
Environmental and Social Management Plan/s	Once in the entire project cycle for every activity that requires ESMP. Must remain on the website and other disclosure locations throughout the project period.	On the website of WWF-US GCF Agency, WWF-Pakistan and the GCF Secretariat. Copies should be available at the Provincial and Site unit locations, and in local municipal government offices, in languages understandable to communities
Minutes of Formal Public Consultation Meetings	Within two weeks of meeting	On the website of WWF-Pakistan other Partner's Websites. Copies should be available at the PMU office and Provincial and Site unit locations
Grievance Redress Mechanism process	Every meeting with Stakeholders	Every time there is a meeting with stakeholders (community, local CSOs, municipal government offices, etc), information on the GRM should be shared with participants.

5.7. Capacity Building and technical assistance

Capacity building activities will be provided as needed by WWF US Safeguards Specialist to WWF- Pakistan and PMU team to provide the latter with:

- Support for ESMF/PF/IPPF implementation requirements and good practices.
- Support on developing ESMPs, IPPs, the GRM and any other Safeguards implementation or plans as required
- Support for capacity development of communities for the effective enforcement and implementation of local management plans
- Monthly calls to provide ongoing support and oversight of ESS implementation

5.8. Grievance Mechanisms

The project will have a direct and tangible effect on local communities and individuals residing within or in the vicinity of project sites. There is thus a need for an efficient and effective Grievance Redress Mechanism (GRM) that collects and responds to stakeholders' inquiries, suggestions, concerns, and complaints. This section will describe the details of the GRM, including details on the process to submit a grievance, how long the PMU will have to respond, and who in the PMU will be responsible for its implementation and reporting.

The GRM will operate based on the following principles:

1. ***Fairness*:** Grievances are assessed impartially and managed transparently.
2. ***Objectiveness and independence:*** The GRM operates independently of all interested parties in order to guarantee fair, objective, and impartial treatment to each case.

3. ***Simplicity and accessibility:*** Procedures to file grievances and seek action are simple enough that project beneficiaries can easily understand them and in a language that is accessible to everyone within a given community, especially those who are most vulnerable.
4. ***Responsiveness and efficiency****:* The GRM is designed to be responsive to the needs of all complainants. Accordingly, officials managing grievances must be trained to take effective action upon, and respond quickly to, grievances and suggestions. This is especially true of SEAH-related grievances, which require specific responses and training.
5. ***Speed and proportionality:*** All grievances, simple or complex, are addressed and resolved as quickly as possible. The action taken on the grievance or suggestion is swift, decisive, and constructive.
6. ***Participation and inclusiveness:*** A wide range of affected people—communities and vulnerable groups—are encouraged to bring grievances and comments to the attention of the project implementers. Special attention is given to ensure that poor people, women and marginalized groups, including those with special needs, are able to access the GRM.
7. ***Accountability and closing the feedback loop:*** All grievances are recorded and monitored, and no grievance remains unresolved. Complainants are always notified and get explanations regarding the results of their complaint. An appeal option shall always be available.

Complaints may include, but not be limited to, the following issues:

(i) Allegations of fraud, malpractices or corruption by staff or other stakeholders as part of any project or activity financed or implemented by the project, including allegations gender-based violence or sexual exploitation, abuse or harassment;

(ii) Environmental and/or social damages/harms caused by projects financed or implemented (including those in progress) by the project;

(iii) Complaints and grievances by permanent or temporary workers engaged in project activities.

WWF-Pakistan has its own internal GRM system in place. The GRM provides a mechanism for project communities to raise any concerns or complaints they may have in relation to the project activities WWF staff, or any other issues that may directly or indirectly impact them *vis a vis* the execution of project activities. The GRM process covers complaints related to pollution prevention and resource efficiency; negative impacts on public health, environment, or culture; destruction of natural habitats; disproportionate impact on marginalized and vulnerable groups; discrimination or sexual harassment; violation of applicable laws and regulations; destruction of physical and cultural heritage; or any other issues which adversely impact communities or individuals in project areas. The grievance redress mechanism will be implemented in a culturally sensitive manner and facilitate access to vulnerable populations. Special training will be provided to the ESS Specialists within the first 6 months of project implementation, or before the GRM is finalized, whichever is sooner. This will help to ensure they have the capacity to address SEAH-related grievances in a culturally sensitive and victim-centered way.

The GRM also has a Whistleblower mechanism to allow project communities to raise complaints anonymously.

For the purposes of the Recharge Pakistan Project, the GRM will have a separate structure, process flow and hierarchy from the WWF-Pakistan country, with all complaints going to straight to the PMU.

<u>Proposed Structure of the GRM for the Recharge Pakistan project</u>

i) **Type:** Internal Mechanism
ii) **Objective:** To provide and introduce a grievance redressal mechanism for project communities

iii) **Purpose:** To ensure the protection and preservation of the procedural and substantive human rights of indigenous peoples, local communities, direct and indirect beneficiaries, or any stakeholder, whether an individual or group, who may be impacted by the Recharge Pakistan project / programme activities / interventions (hereinafter collectively referred to as "**Affected Stakeholders**"), and in compliance with the WWF Network's Environmental and Social Safeguards Framework (ESSF), a **Grievance Resolution Mechanism (GRM)** will be rolled out at each project site.

The function of the GRM is to provide a mechanism through which Affected Stakeholders may raise any concerns or complaints directly with WWF-Pakistan and the PMU regarding its activities or projects.

WWF-Pakistan is committed to strengthen its accountability and improve transparency during the implementation of its conservation interventions, and the purpose of the GRM is to ensure that accessible, transparent, legitimate and trustworthy mechanisms are established at different levels.

iv) **Scope of the mechanism:** Through this GRM, the PMU will receive operational complaints (e.g. about activities, intervention, programs, quality of work, project participant selection etc.) as well as allegations of corruption; nepotism; misuse of funds; physical, psychological, or sexual abuse or harassment; and human rights abuses. This GRM shall only be used by Affected Stakeholders to report complaints and allegations specifically with regards to project activities being implemented within the Recharge Pakistan project sites. Complaints and allegations made by an Affected Stakeholder member of the targeted community against the government institutions (outside the scope of our partners) or other member(s) of the targeted community shall not be considered as a valid complaint or allegation.

v) **Assigned staff:** A dedicated Complaints Coordinator shall be assigned from the project team and who shall be responsible for reviewing and escalating all project complaints. Meanwhile Recharge's GRM will be administered by the PMU in coordination with the Provincial and Site Units. The ESS Specialists will be in charge of the operation of the GRM at the PMU, and each executing partner will assign an individual that will be responsible for collecting and processing grievances that address activities they are responsible for implementing. The GRM will operate according to the following guidelines.

vi) **Informing communities about the GRM:** Awareness raising sessions on ESSF and the GRM will be made part of all initial community consultations, followed by refresher sessions on a 6 monthly basis in all project sites. All sessions will be in the local language of the area, and the local communities will also receive training on how to file and lodge complaints. Posters on the GRM will also be displayed in areas of common use by the local communities (for e.g. mosques, union council offices, community / village-based organizations.)

Example of GRM poster in English and Sindhi





vii) Process of handling complaints:

I. <u>Receipt of Complaint</u>

A Complaint may be received through the following mediums

1. WWF-Pakistan website
2. WhatsApp
3. Email
4. Phone Call / Mobile Phone / Dediated helpline number
5. Post addressed to PMU site office
6. On Site Complaint Boxes
7. Complainant may approach a WWF-Employee directly or through their personal mobile phone
8. Complaint received in whatever form by the Provincial Implementation Units (PIU)
9. Complaints received in whatever form by the Site Implementation Unit (SIU)

II. <u>Logging the Complaint</u>

Whenever a valid complaint is received, regardless of the nature and severity of the complaint, or whether it is anonymous or not, the receiver should record the complaint in the following Grievance Redress Case Form.

Upon receipt of the complaint, the <u>Complaints Coordinators shall take the following steps</u>:

i. Record the complaint in the Complaint database – this should include:
   a. Complainant's name and contact information

b. Details of the complaints
c. Any evidence shared
d. Any other relevant information (e.g. date of event) or supporting documents
e. Any actions taken so far to resolve the problem, including contact with WWF
f. Proposed solutions
g. Whether confidentiality is requested (stating reasons)
h. Eligibility

ii. Within 48 hours, acknowledge the Complainant in writing (in either the same medium it was received through or through post if the Complainant's address is available) and inform them about the process/time frame. In case of an anonymity request, the Complainant should be reassured that their identity will remain confidential.

iii. The complaint should be screened and evaluated against the following Eligibility Criteria to consider further investigation:
a. Identify the type of Complaint received
b. Potential threats (e.g. continued abuse, safety of the complainant)
c. What are the safety concerns?
d. Is the Complaint anonymous?
e. Decide on the type of investigation or fact finding required
f. Conduct a timely evaluation to determine if the issue can be resolved without the involvement of other WWF staff
g. If not, who should be involved from within WWF?
h. Consider any conflicts of interest
i. Establish a tentative timeline to resolve the Complaint

iv. The complaint shall be screened and evaluated against the Eligibility Criteria Screening Checklist by the Complaints Coordinator to consider further investigation. The Eligibility Criteria Screening Checklist is composed of the Environmental and Social Management Standards of WWF's Safeguards framework, and violation of ONE (minimum) standard qualifies the complaint or allegation for further investigation.

Eligibility Criteria Screening Checklist			
Potential Threats		**Yes/No**	**Justification**
Restriction of Access and Resettlement			
1	Were any adverse social or economic impacts on resource-dependent local communities resulting from conservation-related restrictions on resource access and/or use observed?		
2	Were any conflicts between conservation objectives and local livelihoods observed?		

3	Did the conservation activities cause any involuntary resettlement or restriction of access to natural resources?		
Indigenous Peoples			
4	Were any negative impacts of projects and programs on indigenous rights, territories and resources observed?		
5	Was the right to negotiate and agree on culturally appropriate and equitable benefits arising from activities on indigenous lands and territories (including from Traditional Ecological Knowledge) violated?		
6	Has the right of indigenous peoples to Free, Prior and Informed Consent (FPIC) processes been violated?		
Community Health, Safety and Security			
7	Were the communities exposed to accidental or natural hazards due to the project activities?		
8	Was there an oversight with regards to special needs and exposure of disadvantaged or vulnerable groups or individuals, including in particular women and children and people with disabilities?		
9	Did any of the activities cause a negative impact on provisioning and regulating ecosystem services, as they are directly relevant to community health and safety?		
10	Did any of the activities cause a negative impact on climate change or in any way increase the chances of facing a natural disaster?		
Protection of Natural Habitats			
11	Did any of the activities cause a negative impact on biodiversity or critical habitats?		
12	Was there modification of natural and critical habitats decreasing the availability and productivity of priority ecosystem services to maintain benefits to the affected communities and sustain activity performance?		
Pest Management			
13	Was there an allowance for procurement or use of formulated products or pesticides		

	that are in the World Health Organization (WHO) Classes IA and IB, or formulations of products in Class II and Stockholm Convention?		
14	Did any of the activities create reliance on synthetic chemical pesticides?		
Cultural Resources			
15	Did any of the project activities cause harm to the tangible, intangible or natural cultural resources of the landscape/seascape as perceived by indigenous peoples and local communities?		
16	Were decisions about important cultural resources made without the full and meaningful engagement of the communities in question?		
Human Rights Violations			
17	Is there any loss of life, loss of liberty, attacks on persons, torture, sexual exploitation or harassment, degrading treatment or other forms of discrimination associated with WWF-Pakistan or partner activities and/or financing, including those by third parties that receive funds from WWF-Pakistan?	Refer to Table A below	
Exclusion List			
18	Were any of the ineligible activities listed in the exclusion list (refer to Appendix 1 of the Project's ESMF) by the implementation body within the duration of the project?		
Project Related Issues			
19	Did any of the project staff not follow the due process and favoured a specific community or member of the community?		

v. In cases where the Complaints Coordinator needs further information, they may directly contact the Complainant to fill information gaps. Where there is no way to reach out, the Complaint will be dropped unless the Complaints Coordinator determines the nature of the complaint such that it necessitates immediate escalation to the PMU.

vi. If the Complaint cannot be resolved without the involvement of other WWF staff, then the Complaint's Coordinator must brief on the Complaint (it is not necessary that all members of

PMU be present, 2/3 of them is sufficient). In the case of a complaint related to SEAH, the privacy of the complainant must be kept confidential and only those who have been trained in handling SEAH-related grievances should participate.

vii. Within **48 to 72 hours** of being briefed on the Complaint, PMU must decide on next steps by organizing a meeting and, if necessary, involve the relevant practice focal point / project lead / regional head to first verify the veracity of the Complaint. The justification to accept or reject a request to further escalate the Complaint should be recorded through the following template.

PMU Complaint Justification Form	
To be filled in by the Complaints Coordinator	
Date complaint was received:	
Details of the Complaint:	
Supporting information:	
Complainant information (only when not anonymous):	
Date Senior Management Team was briefed:	
Who was present in the briefing?	
To be filled in by the PMU	
Date PMU met:	
Members of the PMU present in the consultation session:	
Date PMU reached a decision:	
What was decided?	
Please specify the justification for your decision:	
Please specify the next steps:	

viii. If the PMU <u>determines that the Complaint is such that it necessitates an inquiry</u>:

I. Considering any conflicts of interest and ensuring impartiality, PMU shall forward this to the existing four (4) member team (the **"Inquiry Team"**) to conduct the inquiry. This team should consists of a member of the following teams:

i. Monitoring & Evaluation;
ii. Internal Audit;
iii. Environmental and Social Safeguards; and
iv. An employee from the site office familiar with the region and /or community where the Complaint was raised.

II. In case of any conflict of interest within the existing members of the Inquiry Team, a replacement must be selected.

III. The Inquiry Team shall conduct their inquiry by i) collecting evidence; ii) engage relevant staff members while maintaining their confidentiality; iii) generate a report within a period of ten (10) working days, and iv) report back to PMU and the Complaints Coordinator with their findings. Based on their findings, which shall remain confidential, PMU shall determine the next steps to resolve the Complaint.

ix. If PMU decides not to follow up and, based on the above-mentioned criteria, determines that the Complaint is not valid, then the Complaint will be closed.
x. If the Complaint cannot be resolved by PMU due to i) lack of evidence; ii) lack of time or human resources; iii) ambiguity within the by-laws, then the grievance that cannot be fully addressed or resolved at landscape or country level must be escalated to WWF International's Safeguards Helpdesk.
xi. The Complaints Coordinator should check in and update the Complainant and close the case in twenty (20) working days.

xii. Inform all relevant stakeholders, including, the Project Manager / Director / Practice Focal Point (whichever is relevant).

Whistleblowing

When a Complaint is received via the Whistleblower process, it is necessary that the identity of the Complainant is protected at all costs. If the Complainant seeks protection, Senior Management Team (SMT) may take actions or contact the relevant focal person to ensure the protection of the Complainant.

If a Complaint is received anonymously, its Eligibility Criteria Screening shall be conducted and then depending on the severity of the Complaint, SMT shall determine whether it should be treated as a whistleblower complaint, or not pursue it.

Complaints that fall under the Whistleblower process include complaints of:

2. **Internal WWF issues** - Including but not limited to fraud, corruption, discrimination, data breaches, workplace conduct and health & safety concerns
3. **Community issues** - Including but not limited to grievances surrounding WWF projects.
4. **Human Rights issues** - Any serious allegations of abuses committed by WWF employees or partners (including government stakeholders)

Non-Retaliation:

WWF-Pakistan strongly disapproves of and will not tolerate any form of retaliation against those who report concerns in good faith. Any WWF-Pakistan employee who engages in such retaliation will be subject to disciplinary action up to and including termination of employment. WWF-Pakistan will take all feasible actions to protect complainants against retaliation. Anyone who has made a report of suspicious conduct of a WWF-Pakistan employee and who subsequently believes he or she has been subjected to retaliation of any kind should immediately report it.

It needs to be noted that the GRM seeks to complement, rather than substitute, the judicial system and other dispute resolution mechanisms. All complainants may therefore file their grievance in local courts or approach mediators or arbitrators, in accordance with the legislation of Pakistan.

In addition to the project specific GRM, a complainant can submit a grievance to the GCF's Independent Redress Mechanism (https://irm.greenclimate.fund/).

WWF also has an independent, third-party Grievance Redress Mechanism called Whistle B, which may be used to submit complaints, including the possibility to submit complaints in an entirely anonymous manner. Information on this process can be found here: https://report.whistleb.com/en/wwf.

A grievance can also be filed with the Project Complaints Officer (PCO), a WWF-US staff member fully independent from the Project Team, who is responsible for the WWF Accountability and Grievance Mechanism and who can be reached at:

Email: SafeguardsComplaint@wwfus.org

Mailing address:

Project Complaints Officer
Safeguards Complaints,
World Wildlife Fund
1250 24th Street NW
Washington, DC 20037

Table A
Response Protocol For Human Rights Abuses

WWF-Pakistan takes alleged breaches of human rights extremely seriously. Where there are allegations related to loss of life, loss of liberty, attacks on persons, torture, degrading treatment or other forms of discrimination associated with WWF-Pakistan or partner activities and/or financing, including those by third parties that receive funds from WWF-Pakistan, a swift and thorough response is required.
The allegations may come to light through various means – from complaints to a project or office level grievance redress mechanism, to the WWF US Project Complaints Office, or as a result of allegations in the media.
After logging in the Complaint and opening a Case File, the following response protocol must be followed:

- The management must:
    - Alert and inform: WWF-Pakistan Board; Head of Compliance WWF International; Enterprise Risk Director (for WWF-US managed offices); The Network Executive

Team; The Board of WWF International; The Board and Senior Management of any WWF office funding the project against which there are allegations;
    - Undertake an internal assessment of WWF's role, if any, and ensure compliance to and cooperation with government investigations;
    - Determine whether or not to suspend activities and remedial safeguarding of people and assets;
    - Handle internal and external communications in coordination with the network;
    - Ensure that the recommended actions of the investigation are followed up;
    - Advocate to local and national authorities that justice is served where egregious or other criminal actions are found.
- A copy of the Case File will also be sent to the Ombudsperson once establishment of this office is finalized (Expected Spring 2023). The case file will be routinely updated and include the proposed management actions. The Ombudsperson will keep a track log of the compliance with the management actions through to resolution;
- Donor office management or their Boards may also choose to suspend financing of activities until additional information is found as a result of the investigation. All donors to the project must be informed;
- Implementing or other relevant office Boards can direct management to take additional steps deemed necessary, including outside mediation or the creation of a compliance monitoring plan;
- If there are repeated failures or an unwillingness of WWF-Pakistan to meet the requirements under a compliance monitoring plan, the Ombudsperson may recommend to that office's Board additional measures such as terminating a project. It would be for the office of the Board to act upon any such recommendations.

5.9. Budget

The ESMF implementation costs, including all costs related to compensation to project affected people, will be fully covered from the project budget. Stakeholder engagement, FPIC processes and other ESS-related risks and mitigation measures have been integrated fully into the project budget and are incorporated into activity costs where either compliance with ESS standards or mitigation of potential risk may arise.

The greatest cost of effective ESS implementation in any project is staff costs for the stakeholder engagement, community mobilization, creation of GRM and information flow systems, FPIC processes and other related processes for true community engagement and joint decision-making. The Recharge Pakistan project staffing model covers these diverse staffing needs and expertise with a full suite of positions that will ensure compliance with the ESMF and related Safeguards requirements.

The project will have an ESS Manager within the PMU, three ESS/ M&E Sr. Officers at the landscapes levels and a male and female Community Engagement specialist at each landscape to manage ESS risks and ensure the project complies with all policies and mitigation measures.. The project manager in PMU will oversee the ESMF implementation, and it will be the responsibility of the ESS Manager to ensure that sufficient budget is available for all activity-specific mitigation measures that may be required in compliance with the ESMF.

Budget for capacity building on ESMF, PF, IPPF and SEP implementation, travel costs and workshops and meetings for safeguards monitoring (including travel, workshops, and meetings) will be included in the

overall monitoring and evaluation budget of the project. Please see below for a breakdown of the ESS staffing and related budget:

Budget Note	Staff	Associated activities	Site	Salary (USD) related to ESS implementation
A14	Officers, Community mobilization (Male and Female)I	1.1.1, 1.1.2, 1.2.1, 1.3.1, 1.3.2	DI Khan / SIU	43,049
A18	Officers, Community mobilization (Male and Female)II	1.1.1, 1.1.2, 1.2.1, 1.3.1, 1.3.2	Ramak / SIU	21,525
A24	Officers, Community mobilization (Male and Female)V	1.1.1, 1.1.2, 1.2.1, 1.3.1, 1.3.2	Chakar Lehri / SIU	43,049
A29	Officers, Community mobilization (Male and Female)VI	1.1.1, 1.1.2, 1.2.1, 1.3.1, 1.3.2	Manchar / SIU	21,525
B12	Officers, Community mobilization (Male and Female)I	2.1.1, 2.1.2, 2.2.1, 2.3.1	DI Khan / SIU	21,525
B14	Officers, Community mobilization (Male and Female)II	2.1.1, 2.1.2, 2.2.1, 2.3.1	Ramak / SIU	10,762
B15	Officers, Community mobilization (Male and Female)V	2.1.1, 2.1.2, 2.2.1, 2.3.1	Chakar Lehri / SIU	21,525
B17	Officers, Community mobilization (Male and Female)VI	2.1.1, 2.1.2, 2.2.1, 2.3.1	Manchar / SIU	10,762
C13	Officers, Community mobilization (Male and Female)I	3.1.1, 3.2.1	DI Khan / SIU	21,525
C16	Officers, Community mobilization (Male and Female)II	3.1.1, 3.2.1	Ramak / SIU	10,762
C19	Officers, Community mobilization (Male and Female)V	3.1.1, 3.2.1	Chakar Lehri / SIU	21,525
C23	Officers, Community mobilization (Male and Female)VI	3.1.1, 3.2.1	Manchar / SIU	10,762

M&E1	Manager, M&E	1.1.1 to 3.2.1	DI Khan, Ramak, Manchar, Chakar Lehri	149,824
M&E2	Manager, Environment and Social Safeguards	1.1.1 to 3.2.1	DI Khan, Ramak, Manchar, Chakar Lehri	149,824
M&E4	Sr. Officer M&E / Safeguards	1.1.1 to 3.2.1	DI Khan & Ramak	85,614
M&E5	Sr. Officer M&E / Safeguards	1.1.1 to 3.2.1	Manchar	85,614
M&E6	Sr. Officer M&E / Safeguards	1.1.1 to 3.2.1	Chakkar Lehri	85,614
M&E11	Safeguards Support Specialist	1.1.1 to 3.2.1	Washington DC	146,983
PMC4	Manager Administration & Security	1.1.1 to 3.2.1	Islamabad / PMU	149,824
PMC5	Office Attendants & Security Support	1.1.1 to 3.2.1	Islamabad / PMU	81,588
TOTAL ESSF STAFF BUDGET				**1,193,181**

Appendix 1. Safeguard Eligibility and Impacts Screening

This screening tool needs to be filled out for each activity or category of activities included in the annual work plan and budget. In the case of the Recharge Pakistan project, "project activity" will mean that each project Output should be screened for every landscape mosaic. This means that all activities under a given output will be considered together in the same screening, but they must be considered within the context of each of the 4 landscapes. Because this project will work in 4 distinct landscapes with very different stakeholders, it is necessary to screen the landscapes individually, even though the Outputs are applicable to the entire scope of project activities.

The tool will be filled out by the Environmental and Social Safeguards Manager in partnership with the M&E/ESS Senior Officer in the relevant site and reviewed by the M&E Officer. The decision on whether a Site-Specific Environmental and Social Management Plan (ESMP) or Livelihood Restoration Plan (LRP) are required shall be made by the ESS Manager in consultation with the WWF GCF Agency Safeguards Specialist, based on the information provided in this screening form, as well as interviews with the PMU staff, local communities, and any other relevant stakeholders. For security risks in particular, if at any time during the life of the project it is determined the security situation in a given area has become high risk, activities in that area will halt until such time as it is safe for all parties to resume work and the risk has returned to medium or low.

Part 1: Basic Information

1	**Activity Name**	
	Description of Output (including activities under that output)	
2	Type of Activity:	New activity ☐ Continuation of activity ☐
3	Activity location:	
4	Total size of site area	
5	Activity implementation dates	
6	Total cost	

(Move to Part 2 after filling in all information in the table above)

Part 2: Eligibility Screening

No.	Screening Questions: *Would the project activity*	Yes	No	Comments/ Explanation
1	Lead to land management practices that cause degradation (biological or physical) of the soil and water? Examples include, but are not limited to: the felling of trees in core zones and critical watersheds; activities involving quarrying and mining; commercial logging; or dredge fishing.			
2	Negatively affect areas of critical natural habitats or breeding ground of known rare/endangered species?			

No.	Screening Questions: *Would the project activity*	Yes	No	Comments/ Explanation
3	Significantly increase GHG emissions?			
4	Use genetically modified organisms or modern biotechnologies or their products?			
5	Involve the procurement and/or use of pesticides and other chemicals specified as persistent organic pollutants under the Stockholm Convention or within categories IA, IB, or II by the World Health Organization?			
6	Develop forest plantations?			
7	Result in the loss of biodiversity, alteration of the functioning of ecosystems, and introduction of new invasive alien species?			
8	Involve the procurement or use of weapons and munitions or fund military activities?			
9	Lead to private land accusation and/or physical displacement and voluntary or involuntary relocation of people, including non-titled and migrant people?			
10	Contribute to exacerbating any inequality or gender gap that may exist?			
11	Involve illegal child labor[32], forced labor, sexual exploitation or other forms of exploitation?[33]			
12	Adversely affect IPs' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical and non-physical or intangible) inside and/or outside the project area?			
13	Negatively impact areas with cultural, historical, or transcendent values for individuals and communities?			
Please provide any further information that can be relevant:				

If all answers are “No”, project activity is eligible and move to Part 3

If at least one question answered as “yes”, the project activity is ineligible, and the proponent can reselect the site of project activity and do screening again.

Part 3: Impacts screening

Answer the questions below and follow the guidance to provide basic information regarding the suggested activity and describe its potential impacts.

No.	Would the project activity:	Yes/No	Provide explanation and supporting documents if needed
Environmental Impacts			
1	Result in permanent or temporary change in land use, land cover or topography.		
2	Involve clearance of existing land vegetation		If yes, number of trees to be cut down: Species of trees: Are the trees protected: Total land area of vegetation cover removed: Estimated economic value of the trees, crops and vegetation to be cut down / removed and any replacement costs (e.g., fees, registration, taxes): Provide additional details:
3	Involve reforestation or modification of natural habitats? If yes, will it involve use or introduction of non-native species into the project area?		
4	Will pesticides be used? If so, are they on the list of those excluded by the Stockholm Convention?		
5	Result in environmental pollution? This may include air pollution, liquid waste, solid waste, or waste as the result of earth moving or excavation for example.		
6	Trigger land disturbance, erosion, subsidence and instability?		
7	Result in significant use of water, such as for construction?		
8	Produce dust during construction and operation?		
9	Generate significant ambient noise?		
10	Increase the sediment load in the local water bodies?		
11	Change on-site or downstream water flows?		

12	Negatively affect water dynamics, river connectivity or the hydrological cycle in ways other than direct changes of water flows (e.g. water filtration and aquifer recharge, sedimentation)?		
13	Result in negative impacts to any endemic, rare or threatened species; species that have been identified as significant through global, regional, national, or local laws?		
14	Could the activity potentially increase the vulnerability of local communities to climate variability and changes (e.g., through risks and events such as landslides, erosion, flooding or droughts)?		
15	Based on the results of the questions above, what are the potential cumulative environmental effects to the given landscape?		
Socio-Economic Impacts			
16	Negatively impact existing tenure rights (formal and informal) of individuals, communities or others to land, fishery, and forest resources		
17	Operate where there are indigenous peoples and their lands/territories/waters are located? OR Operate where any indigenous communities have close cultural/spiritual or land use relationships? If yes to either, answer questions:		
	a. Has an FPIC Process been started? b. Will any restrictions on their use of land/territories/water/natural resources be restricted?		
18	Restrict access to natural resources (e.g., watersheds or rivers, grazing areas, forestry, non-timber forest products) or restrict the way natural resources are used, in ways that will impact livelihoods?		
19	Restrict access to sacred sites of local communities (including ethnic minorities) and/or places relevant for women's or men's religious or cultural practices?		
20	Operate where there are any cultural heritage or religious or sacred sites that may be impacted by the project?		
21	Undermine the customary rights of local communities to participate in consultations in a free, prior, and informed manner to address interventions directly affecting their lands, territories or resources?		

22	Based on the results of the questions above, what are the potential cumulative socio-economic effects to the given communities?		
Labor and Working Conditions			
23	Involve hiring of workers or contracting with labor agencies to provide labor? If yes, answer questions a-b below:		
	a) Are labor management issues prevalent in the landscape? b) Are illegal child labor issues prevalent in the landscape?		
24	Involve working in hazardous environments such as steep, rocky slopes, areas infested with poisonous animals and/or disease vectors?		
Indigenous and Vulnerable or Minority Groups			
25	Negatively affect vulnerable groups (such as ethnic minorities, poorer households, migrants, and assistant herders) in terms of impact on their economic or social life conditions or contribute to their discrimination or marginalization?		
26	Negatively affect the livelihoods and/or customs and/or traditional practices of indigenous groups?		
27	Stir or exacerbate conflicts among communities, groups, within families or individuals? Also considering dynamics of recent or expected migration including displaced people, as well as those who are most vulnerable to threats of sexual exploitation, abuse or harassment.		
28	Based on the results of the questions above, what are the potential cumulative effects to the given communities?		
Occupational and Community Health and Safety			
29	Involve any risks related to the usage of construction materials, working high above the ground or in canals where slopes are unstable or there is a risk of drowning?		
30	Generate societal conflicts, increased risk of sexual exploitation, abuse or harassment or pressure on local resources between temporary workers and local communities?		

31	Expose local community to risks related to construction works or use of machinery (e.g., loading and unloading of construction materials, excavated areas, fuel storage and usage, electrical use, machinery operations		
32	Expose the local community or project workers to health risks, including COVID-19		
33	Work in areas where forest fires are a threat? If yes, how recently was the last one?		
34	Work in areas where there the presence or history of vector-borne diseases (some examples include malaria, yellow fever, encephalitis)		
GBV/ SEAH Risks			
35	Is there a risk that the project could pose a greater burden on women by restricting the use, development, and protection of natural resources by women compared with that of men?		
36	Is there a risk that persons employed by or engaged directly in the project might engage in gender-based violence (including sexual exploitation, sexual abuse, or sexual harassment)? The response must consider risks not only at the beneficiary level, but also to workers within all the organizations receiving GCF funding.		
37	Does the project increase the risk of GBV and/or SEAH for women and girls, for example by changing resource use practices or singling out women and girls for training without complimentary training/education for men? The response must consider all workers within the organizations receiving GCF funding.		
38	Does any mandated training for any individuals associated with the project (including project staff, government officials, park rangers and guards, other park staff, consultants, partner organizations and contractors) cover GBV/SEAH (along with human rights, etc.)?		
Conflict Sensitivity and Risks			
39	Are there any major underlying tensions or open conflicts in the landscape/seascape or in the country where the landscape/seascape is situated? If yes, answer a-d below:		
	a) Is there a risk that the activities interact with or exacerbate existing tensions and conflicts in the landscape/seascape? b) Do stakeholders (e.g. implementing partners, rights holders, other stakeholder groups) take a specific position		

	in relation to the conflicts or tensions in the landscape/seascape or are they perceived as taking a position? c) How do stakeholders perceive WWF-Pakistan and its partners in relation to existing conflicts or tensions? d) Could the conflicts or tensions in the landscape/seascape have a negative impact on the activities?		
40	Could the activities create conflicts among communities, groups or individuals?		
41	Are some groups (stakeholders, rights holders) benefiting more than others from the activities? And if so, how is that affecting power dynamics and mutual dependencies?		
42	Do the activities provide opportunities to bring different groups with diverging interests positively together?		
43	Based on the results of the questions above, what are the potential cumulative effects of conflict (increasing or decreasing) in the given landscape on the relevant communities?		

List of documents to be attached with Screening form:

1	Layout plan of the activity and photos
2	Summary of the activity proposal
3	No objection certificate from various departments and others relevant stakeholders

Screening Tool Completed by:

Signed:

Name: _____

Title: _____

Date: _____

_____

Screening Conclusions [TO BE COMPLETED BY Safeguards Specialist]

i. Main environmental issues are:

ii. Permits/ clearance needed are:

iii. Main social issues are:

iv. Further assessment/ investigation needed and next step.
    a. Need for any special study:

    b. Preparation of ESMP (main issue to be addressed by the ESMP):

    c. Preparation of LRP (main issue to be addressed by the LRP):

    d. Any other requirements/ need/ issue etc.:

Screening Tool Reviewed by:

Signed:

Name: _____

Title: _____

Date: _____

Appendix 2: WWF Pakistan Security Plan

This security plan is aimed to outline the protocols and standard operating procedures (SOPs) in a bid to ensure the security of people, partners, stakeholders and assets in the WWF – Pakistan offices. This document describes an overall view of security arrangements in WWF Pakistan and possible steps which can be taken to ensure the security of the organization and its people. WWF-P prioritize the safety of its staff, assets and other logistics on the field and off the field. Amid the security challenges, it is the very first responsibility of WWF - Pakistan to make robust arrangements to consider the safety and security of its people and logistics.

In the Recharge Pakistan project, the Manager, Administration & Security (Project Management Unit) will be responsible for the implementation and oversight of all security related activities. Each Provincial Implementation Unit (PIU) will also staff looking at security at the provincial level, and which also involves engaging with the relevant law enforcement agencies to gauge the security situation and provide security whenever the project team is required to go to the field.

Security Arrangements:

The security arrangements at WWF Pakistan includes:

1. Security Guards:
    - Security guards are present at all Recharge Pakistan offices 24/7 whose primary responsibility is to conduct security checks and permitting entry. They are also trained and equipped to act promptly in an emergency situation and to deter any offense containing potential threat for the organization.

2. CCTV Cameras:

    - CCTV cameras are strategically installed at all Recharge Pakistan premises of WWF Pakistan to make sure the proper surveillance of activities are occurring in the office. WWF Pakistan Administration department will be responsible for monitoring the movement and activities within the premises of organization and to respond immediately in case of detection of unusual activity.

3. Wall & Fencing:
    - A 12 ft. boundary wall is constructed in a bid to halt the entry of people into the offices and to ensure the safety of logistics and employees within the organization. CCTV cameras will be also installed along with boundary wall in order to assess any unusual movement.

4. Emergency Exit & Security Alarm:

    - Emergency exist are present on both ground and first floor with the purpose to evacuate people in case of emergency or threatening situation. Fire/emergency alarm system is installed in the building of WWF – Pakistan in order to expedite to evacuation of the people in the organization and to prevent any injuries and causalities.

5. Field Travel:
    - WWF – Pakistan does not allow any kind of field travel during the night except in an emergency situation. Other than that, vehicles are inspected on regular basis by the concerned driver and admin department. Our well-trained drivers are always prepared to tackle emergency situations. They have official cell phones with a contact list of emergency numbers that may need to be contacted in an emergency situation, including national emergency numbers such as police and rescue services as

well as Operations staff within WWF-Pakistan. All drivers are trained on standard procedures to follow in the event of an emergency situation.

6. Vehicle Tracking System (GPS):

    - All vehicles are equipped with the advance tracking system which enables admin and other concerned department to know the location of the vehicle during field tour. Admin department has 24/7 access to the tracking system of vehicles which mitigate the threat of vehicle theft and kidnapping. If any of the vehicle is detect of heading towards locations which are unapproved by the admin department, the vehicle is stopped after contacting the tracking company's operators.

7. Emergency Contacts:
    - Emergency contact numbers are displayed in the premises of the WWF – Pakistan offices for the sake of calling the appropriate authorities and security departments in the case of emergency. The emergency contacts include the number of fire brigade, bomb disposal squad, ambulance, nearby police station etc.

8. Communication:

    - In an attempt to ensure uninterrupted communication while staff are in remote areas, we provide satellite phones so they can communicate and inform authorities in the event of an emergency situation. Vehicles are also equipped with advance trackers so in case of trouble, the current location of vehicle can be identified.

9. On-Site Infrastructure & Facilities
    - In every office, there is a power backup (generators, solar panels & UPS) that can be utilized in case of electricity glitch or in emergency situations.
    - Fire extinguishers are available on both floors which can be used to extinguish flames in a case of eruption of fire in the building. Service staff have basic skills required to overcome flames through fire extinguishers.
    - There is an arrangement of exterior lighting which has been placed strategically in order to emphasize entry points, guard post and gate. Exterior lighting act as a deterrent as well as to assist in monitoring through CCTV system.

10. Safety & Security Policies and Plans
    WWF – Pakistan stresses workplace health and safety guidelines in order to prevent any life and property loss. We have devised the following measures and policies to protect the people and assets of the organization and to avoid any inconvenience:

    - Any serious incident or loss and information about the cause and damage resulting from the incident is directly shared with senior management The details of incident provide a way for senior management and the admin department to conceive further plans or measures to avoid such incidents in the future.
    - Any kind of weapon is prohibited on premises of WWF – Pakistan. In case of violation, the organization holds a right to take strict action.
    - WWF – Pakistan has created very robust and formal travel policies including provisions for local, field and international travel.

- We conduct rigorous staff vetting before hiring any employee in order to insulate organization from hiring any people with a criminal record.
- There are documented guidelines about the people who visits office as visitors, and they are only allow to enter after substantiating their identity.
- In case of injury of any staff members, first aid kits and initial medical treatment is available within the organization. Staff members are also trained in First Aid to initially treat injuries and to apply bandages.

11. Security Protocol

In the event where a project / programme is being implemented in an area / project site which has been categorized as medium risk or higher, the relevant staff responsible for security shall ensure compliance with the following protocols:

- The Manager, Administration & Security shall ensure consistent engagement with the relevant government departments (such as the District Commissioner's office), and security agencies (such as the police, levies, FC, and where necessary, the military) to gauge the security situation in each site. These relationships are already well-established within WWF Pakistan, and the Recharge Pakistan Security Manager will be introduced to these relevant partners as part of their inception training. The Manager, Administration & Security, along with all staff looking at security at each provincial office, and site office shall ensure that this engagement takes place at least once every month.
- Where any direction, notification, or official announcement from the relevant government department has been issued which calls for cessation of all work in the project due to security concerns, the Manger, Administration & Security shall ensure the dissemination of such document via email to all site offices and the PMU. Upon receipt of such document, the PMU shall immediately order for the cessation of all project activities being carried out in that site and ensure the safe evacuation of all project personnel, whether they be project employees, or personnel hired through third party contractors, from the project site. If deemed necessary, all staff shall be made to work from home, or be given leave until such time that the relevant security related stakeholders deem the site to be safe to work in again.
- In the event where the Manager, Administration & Security has been made privy to such information, either received from third party sources, or from relevant project staff looking at security, that the situation in a certain project site could become dangerous for the project staff to work in, either due to threat of violence, terrorism, internal sectarianism, or anecdotal information related to alleged instances of kidnapping and abductions, they may, in their discretion, and after consultation with the PMU, either call for the deployment of security personnel in and around the project site, or call for the cessation of all field operations for a period of one (1) week to assess the situation.

12. Implementation Arrangements

The following is guidance for the implementation of this plan within the Recharge Pakistan project:

- The Project Director within the PMU will have the ultimate responsibility for ensuring this plan is followed
- WWF Pakistan will hire a Manager, Administration & Security under the PMU who will be responsible for coordinating with security agencies and local police as well as ensuring implementation of this Security Plan within the Project.
- The project staff will be trained yearly on the contents and implementation of this Security Plan. This extends to the PMU as well as the Provincial Implementation Units and Site Implementation Units
- In the event of an emergency, the staff with the highest level of authority who is physically able to report the emergency must do so. This involves first contacting the appropriate national authority in

the case of a life-threatening emergency, followed by contacting the Project Director and the focal person for Health Safety Environment/ Security who will escalate the problem to the senior management team of WWF Pakistan.

- The first priority in any emergency situation is for staff to safely and quickly remove themselves from the scene if it is possible to do so without further injury to themselves or anyone else. Only then should they contact the appropriate authority and Project Director.
- In the event the Project Director is the person with the highest level of authority on the scene of an emergency, they should then contact the focal person for Health Safety Environment/ Security.
- If it is necessary for the focal person for Health Safety Environment/ Security to travel to the field, they will designate an alternate who will remain at the PUM head office in Islamabad for the duration of the trip.

Appendix 3: Relevant Socio-Environmental Laws & Regulations of Pakistan

Environmental Law:

Environmental law is a collective term describing international treaties (conventions), statutes, regulations, and common law or national legislation (where applicable) that operates to regulate the interaction of humanity and the natural environment, toward the purpose of reducing the impacts of human activity.

Laws in Pakistan Relating to the Environment and Social Protection:

There are more than 100 laws regarding the environment and social protection in Pakistan. These include federal, provincial, and international laws, regulations, statutes, and treaties. Some important socio-environmental laws of Pakistan are stated below in a brief way.

Irrigation Water Laws in Pakistan

Geographic Level	Laws and Policies
Federal	● Indus Waters Treaty (1960) ● Water Apportionment Accord (WAA) 1991 ● PIDA Ordinance (1997) between farmers ● On-farm Water Management and Water User Association Ordinance ● Indus River System Authority Act 1992 ● West Pakistan Water and Power Development Authority Act 1958 ● Pakistan Penal Code (Act XLV of 1860) 1860 Federal Government
Sindh	● Sindh Irrigation Act 1879 ● Soil Reclamation Act 1952 ● Sindh Water Users' Associations Ordinance 1982 ● The Canal and Drainage (Amendment) Act 1972
Balochistan	● Balochistan Canal and Drainage Act 1980 ● Soil Reclamation Act 1952 ● Balochistan Ground Water Rights 1978 ● Balochistan Water Users' Associations Ordinance 1981
Khyber Pakhtunkhwa	● KPK Amendment Act 1948 ● Soil Reclamation Act 1952 ● KPK Water Users' Associations Ordinance 1981 ● Rural Area Drinking Water Supply Act 1985 ● Salinity Control and Reclamation of Land Ordinance 1987 ● The North-West Frontier Province Rivers Protection (Amendment) Ordinance, 2002 ● The Khyber Pakhtunkhwa Canal and Drainage (Amendment) Act; 2015 ● The North-West Frontier Province Rivers Protection Ordinance, 2002

Legislation Related to the Environment

Geographic Level	Laws and Policies
Federal	● Environment Protection Ordinance 1983, revised in 1997 ● The Pakistan Environmental Protection Act, 1997 ● The Environmental Samples Rules, 2001 ● The Pakistan Agricultural Pesticides Act, 1972 ● The Hospital Waste Management Rules, 2005 ● The Pakistan Biosafety Rules, 2005 ● The Pollution Charge for Industry (Calculation and Collection) Rules, 2001 ● The Provincial Sustainable Development Fund Board (Procedure) Rules, 2001 ● The Provincial Sustainable Development Fund (Utilization) Rules, 2003 ● The National Environmental Quality Standards (Certification of Environmental Laboratories) Regulations, 2000 ● The Pakistan Environmental Protection Agency Review of Initial ● Environmental Examination and Environmental Impact Assessment Regulations, 2000 ● The Chairpersons and Members of Environmental Protection Tribunal (Pay and Allowances) Rules, 1999 ● Notifications issued under Pakistan Environmental Protection Act, 1997 (i) Application of Act to PATA of the NWFP (ii) Establishment of Environmental Protection Tribunals in the Provinces of NWFP and Balochistan (iii) Jurisdiction and territorial limits of Environmental Protection Tribunals of NWFP and Balochistan (iv) Establishment of Environmental Protection Tribunals in the country (v) Revision of territorial jurisdiction of Environmental Protection Tribunals at Lahore and Karachi (vi) Appointment of Environmental Magistrate in Islamabad Capital Territory (vii) Delegation of powers and functions of the Pakistan Environmental Protection Agency to the Maritime Security Agency, Karachi ● The Pakistan Penal Code, 1860. (Sections relating to Environment) ● The Cutting of Trees (Prohibition) Act, 1992 ● The Wild Birds and Animals Protection Act, 1912 ● The Pakistan Plant Quarantine Act, 1976 ● The Pakistan Animal Quarantine (Import and Export of Animals and

	● Animal Products) Ordinance, 1979 ● The Pakistan Animal Quarantine (Import and Export of Animals and ● Animal Products) Rules, 1980 ● The Chemical Weapons Convention Implementation Ordinance, 2000 ● The White Phosphorus Matches Prohibition Act, 1913 ● The Prevention of Cruelty to Animals Act, 1890 ● The Cattle-trespass Act, 1871 ● The Pakistan Nuclear Safety and Radiation Protection Regulations, 1990 ● The Pakistan Nuclear Safety and Radiation Protection (Treatment of ● Food by Ionizing Radiation Regulations, 1996 ● The Prohibition of Smoking and Protection of Non-Smokers Health Ordinance, 2002 ● The Cigarettes (Printing of Warning) Ordinance, 1979 ● The Cigarettes (Printing of Warning) Rules, 2003 ● The Fisheries Act, 1897 ● The Exclusive Fishery Zone (Regulation of Fishing) Act, 1975 ● The Exclusive Fishery Zone (Regulation of Fishing) Rules, 1990 ● The Pakistan Fish Inspection and Quality Control Act, 1997 ● The Pakistan Fish Inspection and Quality Control Rules, 1997 ● The Territorial Waters and Maritime Zones Act, 1976 ● The Elephants` Preservation Act, 1879 ● The Agricultural Pesticides Ordinance, 1971 ● The Agricultural Pesticides Rules, 1973 ● The Islamabad Wildlife (Protection, Preservation, Conservation and ● Management) Ordinance, 1979 ● ● The National Environmental Quality Standards (Self-Monitoring and Reporting by (Industry) Rules, 2001 ● The West Pakistan Land and Water Development Board (Authority for payment from Board Fund) Rules, 1966 ● Pakistan Regulation and Control of Loudspeakers and Sound Amplifiers Ordinance (11), 1965 ● Wildlife Conservation of Fisheries Rules (No. 4(107) SO (F and C), 1964 ● Wildlife Conservation and Wildlife Protection Rules, 1960 ● West Pakistan Wildlife Protection Ordinance, 1959 ● Wildlife Protection Ordinance (No. LVI) 1959 ● The West Pakistan Water and Power Development Act, 1958 ● The West Pakistan Water and Power Development Act, 1958 amended in 1958, 1964, 1967 ● The Water Supply and Drainage Forest Act, No. XVI), 1927 ● Wild Birds and Animals Protection Act, 1912 ● The Canal and Drainage Act (No. VIII) 1873 amended in 1952, 1965, 1968, and 1970.
Sindh	● The Sindh Ligation Act, 1879 amended in 1961, 1969 ● Sindh Environmental Protection Act, 2014 ● The Environmental Sample Rules, 2014 ● The Sindh Agricultural Supplies Organization Ordinance, 1972

	● The Sindh Hospital Waste Management Rules, 2014 ● The Sindh Environmental Quality Standards (Self-Monitoring and Reporting by Industry) Rules, 2014 ● The Sindh Sustainable Development Fund Utilization (Procedure and Utilization) Rules, 2014 ● The Sindh Environmental Protection Agency (Review of Initial Environmental Examination and Environmental Impact Assessment) Regulations, 2014. ● The Sindh Environmental Protection Tribunal Rules, 2014 ● The Prevention of Cruelty to Animals (Sind Amendment) Act, 1923 ● The Cattle-trespass (Sind Amendment) Act, 1931 ● The Sindh Fisheries Ordinance, 1980 ● The Sindh Forest Act 2012 ● The Sindh Sound System (Regulation) Act, 2015 ● Sindh Wildlife Protection Ordinance, 1972 ● The Canal and Drainage Act 1873, (Extension to Rohri and Ghotki Canal Areas) (Repeal) Act, 1972.
Balochistan	● The Balochistan Environment Protection Act 2012 ● Agricultural Pesticides Ordinance, 1971 ● Balochistan Hospital Waste Management Rules 2020 ● Balochistan Environmental Pollution Charge for Industry (Calculation and Collection) Rules, 2020. ● The Balochistan Environmental Quality Standards (Certification of Environmental Laboratories) Regulations, 2020 ● The Balochistan Environmental Protection Agency (Review Of IEE and EIA) Regulations, 2020 ● Balochistan Environmental Tribunal Rules 2020 ● The Balochistan Forest Act, 2022 ● The Prevention of Cruelty of Animal Acts, 1980 ● The Cattle-Trespass Act, 1871 ● The Balochistan Sea Fisheries Ordinance, 1971 ● The Agricultural Pesticides Ordinance, 1971 ● Balochistan Agricultural Pesticides Rules, 1973 ● The Balochistan Forest Regulation (Amendment) Act, 1974 ● Balochistan Sound Systems (Regulation) Act 2016 ● Balochistan (Wildlife Protection, Preservation, Conservation and Management) Act, 2014 ● Balochistan Irrigation and Drainage Authority Act, 1997
Khyber Pakhtunkhwa	● Pakistan Biosafety Rules, 2005 - KP CODE ● Environment Protection Ordinance 1983, revised in 1997 ● The Pakistan Environmental Protection Act, 1997 ● The Environmental Samples Rules, 2001 ● The Khyber Pakhtunkhwa Agriculture Pesticides Bill, 2014. ● The Hospital Waste Management Rules, 2005 ● The Pakistan Biosafety Rules, 2005 ● The Pollution Charge for Industry (Calculation and Collection) Rules, 2001

	● The Provincial Sustainable Development Fund Board (Procedure) Rules, 2001 ● The Provincial Sustainable Development Fund (Utilization) Rules, 2003 ● The National Environmental Quality Standards (Certification of Environmental Laboratories) Regulations, 2000 ● Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environmental Impact Assessment Regulations 2000 ● The Chairpersons And Members Of Environmental Protection Tribunal (Pay and Allowances) Rules, 1999. ● Environmental Protection Act, 2014 ● Khyber Pakhtunkhwa Forest ordinance, 2002 ● The Exclusive Fishery Zone (Regulation of Fishing) Rules, 1990 ● the Cattle-. Trespass Act, 1871 ● The Khyber Pakhtunkhwa (KP) Environmental Protection Act of 2014 ● The West Pakistan Fisheries Ordinance, 1961. ● Elephants' Preservation Act, 1879 ● The Pesticides Ordinance, 1971 ● Wildlife (Protection, Preservation, Conservation and Management) Rules 1977. ● The Canal and Drainage Act, 1873. ● The Forest Act 1927 ● The West Pakistan Co-operative Board Act 1966 ● The West Pakistan Regulation and Control Of Loudspeakers And Sound Amplifiers Ordinance, 1965 ● Wildlife and Biodiversity (Protection, Preservation, Conservation and Management) Act, 2015 ● Wildlife (Protection, Preservation, Conservation and Management) Rules 1977 ● The West Pakistan Goats (Restriction) Ordinance, 1959. ● The Pakistan Water and Power Development Authority Act 1958 ● The Forest Act 1927 - Government of Khyber Pakhtunkhwa ● The Canal and Drainage Act, 1873.

Environmental Institutions

Geographic Level	Institutions
Federal	● Ministry of Environment ● Ministry of Climate Change ● Ministry of Water Resources ● Pakistan Environmental Protection Council (PEPC) ● Pakistan Environmental Protection Agency ● Provincial EPAs ● Environmental Tribunals ● Pakistan Wildlife Management Boards ● Ministry of Food and Agriculture ● Forest Department

	● Water and Power Development Authority ● Ministry of Health and Social Welfare ● Ministry of Planning and Development ● Ministry of Defense ● Ministry of Petroleum and Natural Resources ● Ministry of Production ● Ministry of Science and Technology ● Ministry of Water and Power ● Pakistan Atomic Energy Commission ● Pakistan Mineral Development corporation ● Ministry of Food and Agriculture ● National Council for Conservation of Wildlife ● National Council of Social Welfare
Sindh	● Sindh Irrigation Department Government of Sindh ● Environment, Climate Change & Coastal Development Department Sindh ● Sindh Environmental Protection Agency ● Environment Protection Tribunal - Sindh Government ● Sindh Wildlife Department ● Mines & Mineral Development Department Sindh ● Energy Department Government of Sindh ● Planning & Development Department, Sindh ● Social Welfare Department - Government of Sindh ● Sindh Energy Department ● Sindh Forest Department ● Agriculture, Supply & Prices Department, Government of Sindh
Balochistan	● Balochistan Environmental Protection Agency - BEPA ● Irrigation Department Government of Balochistan ● Balochistan Environmental Tribunal ● Agriculture Department, Balochistan ● Balochistan Forest and Wildlife Department ● Balochistan Power Development Board ● Social Welfare Department Balochistan ● Planning & Development Government of Balochistan ● Balochistan Energy Company Limited ● Industry, Mines & Mineral Development, Balochistan ● Balochistan Forest and Wildlife Department
Khyber Pakhtunkhwa	● KP Minerals Department ● Energy & Power Department KP ● Planning & Development KP ● Social Welfare Department Government of Khyber Pakhtunkhwa. ● Energy & Power Department KP ● Forestry, Environment and Wildlife - Government of Khyber ● Agriculture Department - Government of Khyber Pakhtunkhwa ● Irrigation Department KP ● Environmental Protection Agency Services ● Environmental Protection Tribunal Rules 2016

International Conventions/Treaties/Protocols (ICTPs) in the Field of Environment to which Pakistan is a Party

- Convention on Biological Diversity (CBD)
- Sustainable Development Goals
- Paris Agreement
- United Nations Framework Convention on Climate Change (UNFCCC)
- Vienna Convention for the Protection of Ozone Layer
- Convention on International Trade In Endangered Species of Wild Fauna and Flora (CITES)
- Ramsar Convention- Convention on Wetlands of International Importance Especially as Waterfowl Habitats 1982
- United Nations Convention on the Law of the Sea
- International Convention for the Prevention of Pollution from ships
- Convention of Protection of Marine Life
- Basel Convention on the Transboundary Movements of Hazardous Wastes and their Disposal
- Convention on Desertification
- Treaty Banning Nuclear Weapons Test in the Atmosphere in Outer Space and Under Water

The Industrial Relations Ordinance

Geographic Level	**Laws and Policies**
Federal	● Industrial Employment (Standing Orders) Act 1946 ● Factories Act 1934 ● The Trade Union (Amendment) Ordinance 1960 ● Industrial Dispute Ordinance 1959 ● Labour Policies 1955, 1959, 1969, 1972 and 2002 ● Industrial Relations Ordinance 2000) ● Conditions of Employment Ordinance 2022 ● Payment of Wages Ordinance 2002 ● Occupational Safety & Health Ordinance 2000 ● Labour Welfare & Social Security Ordinance 2000 ● Human Resources Development 2002 ● Control of Employment Ordinance 2002 ● Labour Policy 2010 (silent on agricultural workers' rights of unionization and collective bargaining) ● Workmen's Compensation Act 1923 ● The Employee Cost of Living (Relief) Act 1973 ● The Workers' Children (Education) Ordinance 1972
Sindh	● The Sindh Terms of Employment (Standing Orders), Act, 2015 ● The Sindh Factories Act, 2015 ● Sindh Industrial Relation Act, 2013 ● The Sindh Payment of Wages Act, 2015 ● The Sindh Occupational Safety and Health Act, 2017 ● The Sindh Workers Compensation Act, 2016 ● Sindh Minimum Wages Act, 2015 ● The Sindh Workers' Children Education Cess (Utilization) Rules, 1994
Balochistan	● The Balochistan Factories Act, 2021 ● Balochistan Industrial Relations (Amendment) Act, 2015

	● The Balochistan Payment of Wages Act,2021 ● The Workmen's Compensation Act, 1923 ● The Employee Cost of Living Relief Act 1973 ● Workers' Children (Education) Ordinance, 1972
Khyber Pakhtunkhwa	● The Khyber Pakhtunkhwa Home Based Workers (Welfare and Protection) Act, 2021 ● The Khyber Pakhtunkhwa Industrial and Commercial Employment (Standing Orders) Act, 2013 ● The Factories Act 1934 ● Industrial Relations Act, 2010 ● Khyber Pakhtunkhwa Occupational Safety and Health Act,2022 ● The Khyber Pakhtunkhwa Payment of Wages Act, 2013 ● Khyber Pakhtunkhwa Finance Ordinance, 2002 ● Industrial Relations Act, 2010 ● Khyber Pakhtunkhwa Worker's Compensation Act, 2013

Child labour laws

Geographic Level	**Laws and Policies**
Federal	● Employment of Children Act, 1991 ● The Children (Pledging of Labour) Act 1933 ● The Employment of Children Act 1991 ● The Employment of Children Rules 1995 ● The Factories Act 1934 ● The Shops and Establishments Ordinance, 1969 ● Mines Act, 1923 ● The Road Transport Workers Ordinance, 1961 ● Merchant Shipping Ordinance, 2001 ● Zainab Alert, Response and Recovery Act, 2020 ● The ICT Prohibition of Employment of Children Act 2018 ● ICT Child Protection Act 2018 ● The Prevention of Trafficking in Persons Act – May 2018 ● The Prevention of Smuggling of Migrants Act – April 2018 ● The Acid and Burn Crime Act – May 2018 ● The Juvenile Justice System Act – May2018 ● The National Commission on the Right of the Child Act 2017 ● The Child Marriage Restraint (Amendment) Act 2017 ● Criminal Law (2nd Amendment) Child Protection Act 2016 (To amend the PPC (1860) and CCrP (1898) ● The Child Marriage Restraint (Amendment 1929) Bill, November 2018 ● Child Marriage Restraint Bill 2019
Sindh	● The Children (Pledging of Labour) Act 1933 ● Sindh Prohibition of Employment of Children Act 2017 ● The Sindh Factories Act 2015

	● The Sindh Shops and Commercial Establishment Act 2015 ● The Sindh Prohibition of Employment of Children Act2017 ● The Sindh Child Marriage Restraint Act 2014 ● The Sindh Prohibition of Corporal Punishment Act 2017 ● The Sindh Street Children Shelter Home Act 2018 ● The Sindh Child Marriage Restraint Act, 2013
Balochistan	● The Children (Pledging of Labour) Act 1933 ● The Employment of Children Act 1991 ● The Employment of Children Rules 1995 ● The Balochistan Child Protection Act 2016 ● Baluchistan Child Marriage Prohibition Bill 2018
Khyber Pakhtunkhwa	● The Children (Pledging of Labour) Act 1933 ● Khyber Pakhtunkhwa Prohibition of Employment of Children Act 2015 ● The Khyber Pakhtunkhwa Factories Act, 2013 ● The Khyber Pakhtunkhwa Shops and Establishments Act, 2015 ● The Khyber Pakhtunkhwa Child Protection and Welfare (Amendment) Act 2016 ● The Khyber Pakhtunkhwa Prohibition of Corporal Punishment Act 2017

Appendix 4: Overview of Stakeholder Engagement Plan

The following is a summary of the Stakeholder Engagement Plan. For full details of the Plan as well as stakeholder engagement to date, please see Annex 7 of the FP.

The following comprises an overview of activities to be undertaken with respect to stakeholder engagement by the PMU:

- An annual participatory review workshop in each project site for local stakeholders, particularly project beneficiaries and civil society organizations. As is necessary per location, separate workshops will be held for men and women to ensure effective participation of women in these reviews.
- The SEP will be periodically reviewed and updated as necessary at an annual Reflection Workshop. The review will ensure that the list of project stakeholders and methods of engagement remain appropriate.
- Activities related to stakeholder engagement will be documented and reported by the PMU every 6 months in a Project Progress Report (as part of regular reporting). The project Results Framework and Annual Work Plan and Budget will track beneficiaries of the project and activities related to the Stakeholder Engagement Plan.
- Stakeholder Engagement activities and progress will be monitored through the following indicator: Number of direct and indirect beneficiaries disaggregated by gender as co-benefit of GCF investment.

The below table includes a list of project stakeholders, their proposed role in the project and engagement strategy. This will be updated during project implementation to be site-specific for each landscape.

Executing Entities			
Stakeholder Group	**Interests and Influence / Relevant to the Project**	**Proposed Role in the Project**	**Engagement Strategy**
Recharge Pakistan Executing Partners	The entities responsible for the implementation of the project will be **WWF-Pakistan** (a private independent organization under the international WWF Network, will serve as the Executing Entity for Recharge Pakistan),	**WWF-Pakistan** will be responsible for project execution; management of grantees, recipients of goods or services, and procured parties and their activities; reporting to the AE; and ensuring optimal	Project Steering Committee

	Ministry of Climate Change (MoCC) (the GCF NDA for Pakistan. It holds the national mandate for climate change, environment, and Multilateral Environmental Agreements, including UNFCCC and NDC commitments), and the **Ministry of Water Resources' (MoWR) Federal Flood Commission (FFC**) (a national level ministry, which has authority over flood and water resources management in Pakistan).	alignment of Government of Pakistan's policies and ministerial contributions to achieve Project Outcomes and Fund-level impacts as described in section B.3. As EE, WWF-Pakistan will enter into grant agreements with each grantee, cooperative agreements with each recipient of goods or services, and consulting agreements with the procured parties for the foregoing activities, retaining responsibility for any delegated authority over financial management and procurement. **The Ministry of Climate Change** (MoCC) will be responsible for implementing and leading Component 2	
NATIONAL LEVEL STAKEHOLDERS (GOVERNMENT OF PAKISTAN)			
Ministry of Planning, Development, and Special Initiatives (MoPDS)	This stakeholder is relevant for the execution of Component 2.	Consultations and feedback, along with obtaining approvals for activities under Component 2.	The Project Director (PMU) will be responsible for engagement with MoPDS in collaboration with the MoCC.

			Engagement will take place on an annual basis, specifically in the beginning of each financial year. However, where deemed necessary, the Project Manager (PMU) may reach out to the MoPDS. A focal point within the MoPDS needs to be identified so that ad-hoc engagement can take place.
Economic Affairs Division (EAD)	EAD provides NGOs and charitable organizations with permission to work in Pakistan. WWF-Pakistan is required to provide updates on new projects, and progress updates on existing projects to the EAD on a bi-annual basis.	Need to be kept in the loop.	The Operations Manager (PMU) will be responsible for engagement with this stakeholder. Engagement will take place on a bi-annual basis.
Pakistan Meteorological Department (PMD)	Provide long-term (past) time series of precipitation for the assessment of frequency and return periods of flash floods in the project areas.	Access to data, consultative sessions.	Engagement as and when required
National Disaster Management Authority (NDMA)	This stakeholder is relevant for the execution of Component 2.	Feedback and consultations.	Biannual and ad-hoc Engagement. Responsibility of the Project Manager (PMU)

			in collaboration with the MoCC.
National Disaster and Risk Management Fund (NDRMF)	NDRMF is providing co-financing for this project	Co-financing	Engagement to be led by MoCC, Project Director (PMU) to coordinate.
Pakistan Council of Research in Water Resources (PCRWR)	PCRWR promotes and disseminates new knowledge regarding adaptation to climate change. Is relevant to Component 2.	PCRWR will provide data and be seminal / pivotal in the consultations and feedback sessions for the execution of Component 2.	Engagement to be led by MoCC, Project Manager (PMU) to coordinate.
PROVINCIAL LEVEL STAKEHOLDERS (Sindh, Balochistan, and Khyber Pakhtunkhwa[34])			
Provincial Irrigation Departments (PIDs) (KP, Balochistan, and Sindh**)**	PIDs will be responsible for the implementing of activities under Component 1	Construction, maintenance, and operation of irrigation infrastructure.	High level engagement will the responsibility of the Provincial Manager in the Provincial Implementation Unit (PIU). However, for day to day business, a coordinator level employee from the Site Implementation Unit (SIU) will be made responsible. Moreover, since WWF's role in activities being led by the PIDs (excavation and de-silting activities) is oversight and ensuring compliance with the ESMF, bi-annual engagement for the same will be led by the ESSF Manager

[34] Unless specifically mentioned, reference to "Provincial" shall mean reference to all provinces

			(PMU), to be followed up by the site level ESSF Coordinators and Officers.
Provincial Agriculture Departments (PAD) (KP)	PAD will provide support to WWF-Pakistan for the execution component 2, specifically activities pertaining to Climate Smart Agriculture (CSA).	Liason with farmers, assisting in developing training materials and delivering the same.	Recharge Pakistan's CSA team at each SIU will be responsible for coordination and engagement
Provincial Forests & Wildlife Departments (KP, Balochistan, and Sindh)	Will support WWF-Pakistan in the procurement of saplings for the purposes of implementing component 1.	Provide technical support for sustainable afforestation in the DI Khan (i.e. Khyber Pakhtunkhwa)	High level engagement will the responsibility of the Provincial Manager in the Provincial Implementation Unit (PIU). However, for day to day business, a coordinator level employee from the Site Implementation Unit (SIU) will be made responsible. Moreover, since WWF's role in activities being led by the PIDs (excavation and de-silting activities) is oversight and ensuring compliance with the ESMF, bi-annual engagement for the same will be led by the ESSF Manager (PMU), to be followed up by the site level ESSF Coordinators and Officers.
Provincial Disaster Management Authorities (PDMA)	This stakeholder is relevant for the execution of Component 1 and 2.	Feedback and consultations.	Biannual and ad-hoc Engagement. Responsibility of the Provincial Manager

			(PMU) in collaboration with the MoCC.
District/Tehsil Administration and Law Enforcing Agencies (LEA) including FC, Rangers, and Border Military Police (KP and Balochistan)	The ESMF has identified certain security risks that could arise in the KP and Balochistan project sites. These are largely due to the presence of the Tehreek-e-Taliban Pakistan (TTP), the Pakistan faction of the Taliban, and the Balochi separatists' groups in Balochistan. Hence, engagement with these stakeholders will be necessary to gauge the security situation in these project areas and plan accordingly. In addition, these entities will be requested to provide security to project staff working there or travelling to these areas.	Provide guidance on security arrangements, provide security cover and personnel as and when needed.	Manager Administration & Security from the PMU will be responsible for high level engagement. Each PIU and SIU will have a Coordinator / Sr. Officer Administration & Security who will be engaging with these entities on a monthly basis, and will reach out them when a project team needs to conduct site visits for the implementation of project activities.
NON-GOVERNMENT STAKEHOLDERS			
Academia in Pakistan offering water, agriculture, and climate-related degree programs including: Center for Water Informatics & Climate Resilience (CWC)-IMSciences Centre of Excellence in Water Resources	This stakeholder is relevant for the execution of Component 1.	Feedback and consultations.	Biannual and ad-hoc Engagement. Responsibility of the Project Manager (PMU) in collaboration with the MoCC.

Engineering, Lahore, Punjab U.S. Pakistan Center for Advanced Studies in Water (USPCAS), Sindh			
Tribal groups in DI Khan and Balochistan.	Tribal groups still exert considerable influence in these project areas. Despite government presence, even government entities are required to engage and seek the approval of tribal elders before the implementation of any work.	Community Engagement, Social Cohesion	Continuous Engagement by relevant focal points in the PIUs and SIU.

Appendix 5: Conflict and Security Assessment

I. INTRODUCTION

Pakistan's security situation is best described as precarious. After a period of relative peace, the takeover of Afghanistan by the Taliban in late 2021 has seen a spillover affect with the number of terrorist attacks seeing an uptake in the past couple of months[35].

The Taliban-led government is also now providing safe haven to the anti-Pakistan insurgent group the Tehreek-e-Taliban Pakistan (TTP), also known as the Pakistani Taliban, which is further emboldening other TTP inspired militant groups in Pakistan.[36]

However, the Taliban-led Afghan government (referring to itself as the Islamic Emirate of Afghanistan) facilitated and mediated talks between the TTP and the Government of Pakistan so that the terms of a ceasefire could be agreed to. On June 18th the Islamic Emirate of Afghanistan confirmed that the "Pakistani government and the Tehreek-e-Taliban Pakistan (TTP) have reached an agreement on an "indefinite" ceasefire during ongoing peace talks in Kabul."[37]

Despite the ceasefire, attacks on police and military personnel are still taking place. As per a recent report presented before the National Assembly, Pakistan witnessed around 434 attacks on security forces carried out by terrorists during the first six months of 2022. The report claimed that KP reported the highest number of militant attacks on the security forces, witnessing around 247 attacks on security forces during six months of the current year. In Balochistan, 171 incidents of terrorism took place whereas 12 attacks were reported in Sindh.

Two recent terrorist related incidents took place in DI Khan (one of the Recharge project sites) one on 6th July, 2022, leading to the death of two police officers[38], while another took place on the 10th of August, 2022, where a police mobile can was attacked using an improvised explosive device (IED). However, a joint search operation was launched by the police and security forces leading to two terrorists being killed.[39]

It should be noted, however, that the political and security situation is different in each province / project. In project sites such as Manchar Lake in Sindh, the security situation is relatively better and law and order is not an issue. There is no indication that security concerns in other sites would spill over to these regions; the

[35] 434 terror attacks' reported against security forces, The Express Tribune, 30th July, 2022, https://tribune.com.pk/story/2368652/434-terror-attacks-reported-against-security-forces, last accessed 31st August, 2022

[36] Pakistan's Twin Taliban Problem, A. Mir, United States Institute of Peace, 4th May, 2022, https://www.usip.org/publications/2022/05/pakistans-twin-taliban-problem, last accessed 31st August, 2022

[37] Afghan Taliban confirm Pakistan-TTP 'indefinite' ceasefire, The Express Tribune, 18th June, 2022, https://tribune.com.pk/story/2362180/afghan-taliban-confirm-pakistan-ttp-indefinite-ceasefire, last accessed 31st August, 2022

[38] Two traffic cops martyred in DI Khan terror attack, The International News, 6th July, 2022, https://www.thenews.com.pk/print/971764-two-traffic-cops-martyred-in-di-khan-terror-attack, last accessed 31st August, 2022

[39] Two terrorists killed in exchange of fire near Dera Ismail Khan's Kulachi area: ISPR, Dawn News, 10th August, 2022, https://www.dawn.com/news/1704135, last accessed 31st August, 2022

socio-political dynamics in the former are very different from the latter and are not expected to affect project delivery. Below are the broader categorization of threats and sorts of conflicts found in different localities of the project areas:

II. EXTERNAL RISKS (CROSS BORDER TERRORISM) IN THE RECHARGE PROJECT SITES

As far as external risks are concerned, they have been mitigated to a slight degree after fencing along the whole border and establishing hundreds of security points by both Afghanistan and Pakistan along the border. A memorandum of understanding was signed by both then President Ashraf Ghani and the current Taliban Government with the authorities in Pakistan. All of the project sites are far away from the border areas. However, for the smooth implementation and for the protection of project staff it is recommended to engage with relevant police departments, commissioner offices, and law-enforcement agencies onboard along with developing security plans in consultation.

i. Chakar Lehri, Balochistan:

Whilst most of the external threats are subjected towards western and northwestern part of Balochistan, there is a medium scale threat in the project sites. Tensions occasionally arise along Iran-Pakistan and Afghan-Pakistan borders that have prolonged impacts on regional peace. But in the provincial project site, Chakkar Lehri, the security situation is a bit more complex. Attacks have historically targeted military personnel and Chinese nationals working in Balochistan in relation to the China Pakistan Economic Corridor (CPEC) which is part of China's Belt & Road Initiative in Pakistan, yet these too are far from the project site.

ii. D. I Khan, Khyber Pakhtunkhwa:

Security threat is a concern in Tank and Dera Ismail Khan. Since the Taliban took power in Afghanistan, attacks from across the border have become frequent and a source of diplomatic tension between the two countries. It is speculated that these are spillovers of the Taliban's conflict with various insurgencies operating in Afghanistan after US and NATO forces abandoned the country. Many a times, intense exchange of fire between terrorists and policemen are echoed in the area and civil security is threatened. However, the locals express their full support to eliminate the menace of terrorism from the area.

iii. Manchar Wetlands Complex, Sindh:

No external threats exist in this area.

III. INTERNAL RISKS (TRIBAL HISTORICAL CONFLICT)

The historical tribal conflicts in KP and Balochistan are considered as internal risks. There are different tribes residing in most of the project sites such as D.I. Khan (Kulachi area), Ramak, and Sibbi (Chakar Lehri). During the field visits and in-depth interview with various multi-level stakeholders, tribal conflicts were discussed thoroughly with the AC Rod Kohi (D.I. Khan and Ramak) as well as Chief Engineer (Mr. Irshad Jamali) and Superintendent Engineer (Sheikh Zaman). They were of the opinion that these conflicts are less-prevalent now with increased education, empowerment, social media, and people's access to the justice and police system. These risks were further mitigated when the status of tribal areas were changed and merged with

the Khyber Pakhtunkhwa Province. The Chief Engineer and S.E also belong to different influential tribes in the project areas. To have some further insights, Dr. Shakeel Hayat and Rafiq (the DevCon Consultants) met the elders of different tribes in both D.I. Khan, and Sibbi. Tribal elders were excited about the proposed project activities and ensured full cooperation. However, for the smooth implementation of the project activities it would be essential to take the tribal elders as well as other community members onboard and into full confidence.

i. Chakar Lehri, Balochistan:

There exists a threat from the Balochistan Liberation Army (BLA), an ethnonationalist militant organization in the Balochistan that is involved in attacks against Pakistani government and foreign workers in Balochistan. There also have been reported minor arms attacks and domestic conflicts amongst the ethnic groups and tribes in the region. The threat of robbery, kidnapping and vehicle snatching by armed bandits, however, continues to exist. Threat of radical activity is low yet after evaluation, Chakar Lehri is placed as a High to Medium Risk Security Zone.

ii. D. I Khan, Khyber Pakhtunkhwa:

The scattered local population is predominantly rural and caste system is very strong in this region. The majority belong to indigenous Khokhar and Machhi clans. DI Khan often sees instances of terrorist attacks on police and military personnel. Hence, one risk that could potentially arise is the safety and security of the project team and local communities as a result of the presence of the project team. The threat of robbery, kidnapping, vehicle hijacking and civil disputes, however, continues to exist. Although, the threat of radical activity is between low to medium level, after our evaluation, D. I. Khan (Ramak) have been ranked as a Medium Risk Security Zone. There is a presence of migratory tribes like Kehal and Mor in the DI Khan as well as a number of Pakhtoon tribes. These tribes have considerable influence in the area. There are also conflicts between the tribes which could be exacerbated or aggravated as a result of the project activity, especially in the context of access to project benefits. To mitigate this risk, *Sub-Activity 2.1.2.1* and *Sub-Activity 2.1.1.3* have already been budgeted and incorporated in the FP.

iii. Manchar Wetlands Complex, Sindh:

There are no major conflicts existing between Mohana or Mallah Communities living near Manchar.

IV. COMMUNITY LEVEL RISKS (CHANGES IN THE RULES OR INSTITUTIONAL OVERLAPPING)

During the field visits and in-depth interviews with various multi-level stakeholders (WAPDA-Federal; Irrigation-Provincial; and Command Area Authority-Provincial) and local beneficiaries, it was identified that there are some prevalent community level risks which required attention.

i. Chakar Lehri, Balochistan:

Despite the fact that there is an elected provincial assembly, it is the Tribal elders who indirectly decide who will hold positions of power and influence in the government. The recent resignation of the former Chief Minister of Balochistan, Jam Kamal Khan Alyani in October 2021, is one recent

example of this. The state's presence in Balochistan is also weak, and it is the military and paramilitary forces who indirectly govern the province. This has led to some rifts and grievances with local communities.

ii. D. I Khan, Khyber Pakhtunkhwa:

In D.I. Khan, the plural legal system has created institutional overlapping and conflict among the federal and provincial institutions. This is due to the lack of coordination among these institutions. Other risks include community level conflicts which are common in the D.I. Khan area where the historical community rules were changed after the Gomal Zam Dam's construction. The majority of the proposed interventions are linked to the revival of Spate Irrigation or Rodh Khohi System, which is a welcomed intervention for the locals. The land where projects are located mostly belong to the tribes, and land tenure is strong and defined according to local customs. Technically, these are called Common Property Resources (CPRS). Locally known as' Shamillat'. These lands are near the foothills.

According to the local sources, in DI Khan, roughly 95 percent of these lands are private property and CPRs. Five percent of land is 'marginal', which is intermittently encroached by the local community. This can result in loss of property and precious lives. Government sometimes intervenes by initiating certain projects in the area, but at times these lands are permanently inhabited by the community. Since many tribes reside in the area, hostility exists between certain tribes and clashes in the name of water rights, honor and other issues result in skirmishes and clashes, but this isn't widespread, and is limited to certain smaller neighborhoods. This is not anticipated to create a hindrance to project activities, and the local law enforcement is strong enough to tackle such issues. Generally speaking, land in the suburban areas or within the vicinity of irrigation channels such as the canals etc. are owned by private individuals, by the forest department, Awqaf, and provincial government departments.

v. Manchar Wetlands Complex, Sindh:

Manchar lake was formed by the Indus River, and was originally spread over approximately 650 Sq Kilometers in Dadu/Jamshoro and Nawab shah Districts. It is now 240 Sq kilometers in Shewan and Johi Taluka due to changes in the course of the Indus River. The lands around Manchar Lake are surveyed and public lands on the southern, northern, and western sides of Manchar. On the eastern side is the Indus river. The Mohana peoples have no formal land rights around Lake Manchar despite their millennia-long connection to the lake and its natural resources. Due to this vulnerability, the project will need to take extra steps to ensure they are fully consulted when and if the project overlaps with their traditional areas. Details on this will be found in the IPPF of the ESMF.

V. CONFLICT RESOLUTION MECHANISM

Conventional Conflict Resolution Mechanisms exist in most of these project areas. However, the modalities may differ according to the norms and traditions of the dwelling communities. For instance, our ESMF consultants also enquired about the land tenure system in the Chakkar Lehri areas (Balochistan). Land in the Rodh Khohi areas are tribal land and tribal elders award these lands to residents and tenants. Water rights are also determined as per the rule of these notables (*sardars/chaker*). For the Chakkar Lehri area they

strongly suggested that involvement of these notables is vital for the successful implementation of the project activities. Similarly, in DI Khan, tribal elders have considerable influence in the communities and serve as organs to resolve conflicts. Tribal elders hence need to be continuously engaged, and updated on project activities and progress. Moreover, the approval of the tribal elders through their *jirgah* system will be obtained before the start of all project activities.

Where institutional overlapping exists, an effective coordination mechanism among these institutions can mitigate this conflict, and has been included in the project design. Clarity on the rules, effective community involvement, and taking the stakeholders onboard can eliminate these risks. Additionally, since the project activities have been validated by the locals, these communities are fully onboard, and locals have endorsed interventions.

Apart from conventional methods, WWF-Pakistan will make use of its community engagement plan and will work to establish CBOs and VDOs that will long serve the project's stance and benefits. The Community Engagement Plan has been an integral part of WWF-Pakistan's work and serves as a continuous process throughout the project cycle. More information is given in section 5.5 of Environmental and Social Management Framework & Process Framework.

The PMU will be trained during project implementation on conflict/peacebuilding in the conservation context so they can play an effective role if need arise. This will equip them with deepen intersectional awareness of positionality, local dynamics, conflict resolution and peacebuilding measures when working in such communities.

WWF-Pakistan will also ensure a continuous monitoring and supervision of the project activities to ensure compliance with the proposed mitigation measures. More details on this, and engagements that have already taken place during the FP stage of this Project design can be found in the Stakeholder Engagement Plan of Annex 7 of the FP. Risks and associated mitigation measures specific to security have been addressed in Section F.1. of the FP and the Security Protocol contained as an Appendix within this Annex 6, whereas any risks associated with the potential of the project to increase conflict have been addressed in the Risk Mitigation section of the ESMF.

To protect and preserve natural forests from illegal cutting/forest fires, the project will develop Watch and Ward Plans with CBOs and the Provincial Forest Departments. These plans will include the co-creation of ecosystem protection and restoration plans, operation and maintenance of EbA and green infrastructure assets developed under Component 1, and operationalize ecosystem and community impact monitoring, establish operational agreements for the execution of the Watch and Ward Plans assigning specific operation, maintenance, and stewardship roles among communities and Provincial Forest Departments.

VI. CONCLUSION

In last few years, serious efforts and measures taken by the state and security agencies have significantly controlled the security situation in the region and minimized the threat of transboundary terrorism in Pakistan but the country continues to face multiple sources of conflicts; external and internal. The incidences of extremism and intolerance are yet there as diversity grows in the country. Therefore, the security situation in Pakistan is one of the realities of working in the country, and as such is not an ESS-specific threat, but one

that has the potential to impact all aspects of the project. It has therefore been included in Section F.1. of the FP. The mitigation measures include:

- A conflict Sensitivity analysis has been prepared for the project, included under Annex 6, which outlines security measures for the project. These include engagement with security forces in the target provinces and detailed measures in the case of any security threats, including immediate withdrawal from project areas where security threats are identified.

- Additionally, the Stakeholder Engagement Plan in Annex 7 outlines how the project will work with Tribal elders in the DI Khan area to build trust and cooperation. While the project will not be working with those engaged in separatist activities, close collaboration with Tribal elders in the region can act as an additional mitigation measure by providing legitimacy to the work and offering advice to the Project team on how to avoid becoming unintentionally part of any conflict. Additionally, security related mitigation measures have been provided for in WWF-Pakistan's internal security plan (See Appendix 2 of this ESMF), which will be followed, along with consistent engagement with local security and law enforcement agencies. If at any time these agencies deem the area too unstable to work in, the Project will halt activities in the area until such time as it becomes safe to return.

Two sites fall under medium security risk zones namely DI Khan and Balochistan. The security of the project staff and teams will always be a priority in these risk settings. Sindh falls under a low security risk zone and there are virtually no external threats. In addition, WWF-Pakistan will adopt its own mechanisms as identified in ESMF in addition to conventional approaches to achieve the project's success. It must be noted that WWF-Pakistan has a long history of working in conflict-prone settings including Lasbela, Khuzdar, Kohlu and Barkhan in Balochistan and has been successful in establishing its credibility and confidence among local institutions and communities.

The mitigation measures and risk reduction techniques are already in-place and budgeted in the FP under several activities such as; *Sub-Activity 2.1.2.1: Consult with tribal elders to support the sensitization of the project's adaptation intervention in beneficiary communities*. and *Sub-Activity 2.1.1.3: Establish community-based watch and ward systems under CBOs to protect the project's EbA and green infrastructure interventions from degradation*. Furthermore, the project already has the full support of the government in Balochistan and Khyber Pakhtunkhwa. It will, however, need to ensure and maintain a strong level of trust with the tribes and local communities in each project site to allow for effective implementation and execution of the project activities.

Appendix 6: Social Mobilization Plan

1. WWF Engagement with Civil Society Organizations (CSOs)

Civil society is one of the three key agents for change – government, civil society and the private sector – that WWF engages with in order to bring about sustainable development, equitable governance of common public goods and respect for human rights.

WWF has a long experience of engagement with CSOs, communities, community based organizations (CBOs), and public institutions in a wide range of contexts and forms. While WWF recognizes and encourages cooperation and collaboration with like-minded organizations, the Network has not formulated a shared strategy or articulated recommended approaches to our relationship with other civil society actors.

The CSOs can be defined to include "all non-market and non- state organizations outside of the family in which people organize themselves to pursue shared interests in the public domain. CSOs often operate on the basis of shared values, beliefs, and the objectives with the people they serve or represent[1]." This definition covers a wide range of organizations that include membership-based organizations, cause based CSOs, and service oriented CSOs. Examples include NGOs, CBOs, environmental groups, women's rights groups, farmers' associations, faith based organizations, trade unions, etc.

WWF's own understanding of CSOs also includes various membership/community based organizations as service providers and representative platform of disadvantaged groups as well as cooperatives in which individual producers come together to promote their common interest in the market. The forms, structures, objectives, mandate, roles, constituencies and strategies of CSOs are also influenced by, and adopted to, the different social, cultural and legal contexts in which they operate. A local CBO can be informal, with the very minimum of structures they are needed in order to fulfill specific objectives. WWF views civil society as a key performer in bringing about a change in society and in promoting democratic, transparent and accountable environmental governance systems and practices that are essential to achieving conservation and sustainable development goals.

2. WWF Social Principles

In line with WWF's commitment to strengthen the social dimensions of its projects, programmes and policy work, the following principles are fundamental to creating effective, lasting and equitable solutions to environmental challenges. These principles are intended to strengthen our conservation results and ensure their sustainability into the future:

- Respect people's rights in accordance with customary, national and international human rights laws;
- Promote equity within the scope of our projects, programmes and policies at multiple levels, and promote these principles in policy for advocacy work at national and global levels;

- Aim to enhance the natural assets of local communities, particularly the poor, and ensure that our conservation work does not harm vulnerable people;
- Address weak governance, taking into account cultural and political contexts, through improvements in tenure and income security and decision-making procedures, devolution of environmental management and empowerment to ensure that the rights (and access) of local people to natural resources, which are the basis of their livelihoods, are exercised and enforced;
- Address the inequitable distribution of environmental costs and benefits and unsustainable production and consumption patterns at multiple levels whenever possible by influencing local policies and practice, global markets, the private sector, national, regional and global policies and processes.

3. Social Mobilization

Social Mobilization is a process of organizing people and supporting them to collectively think and act upon their conservation and development needs. Social mobilization is carried out to make sure that majority of the community understands what the project entails, its purposes and activities. Effective social mobilization ensures that people in the project area-regardless of their education level, ethnicity, tribe, religion are organized and have access to information, equal rights to say and feel encouraged participating in the project from the beginning. Social mobilization makes communities partners instead of recipients, enhance good governance, bridge the gap between service providers and local communities and establish good working relationship with them. Effective social mobilization helps in establishing and strengthening community based institutions to address conservation and socio- economic issues with the support of government departments, non-government organizations, civil society and academia.

4. Principles of Social Mobilization

- Community organization to promote collective actions and harness people's potentials
- Skill development through capacity building processes
- Capital formation through generation of savings (individual and collective)
- Linkage development with public institutions, private sector, civil society and academia
- Records keeping to ensure transparency and accountability

4.1 Community Organization to Promote Collective Actions and Harness People's Potentials

An organization is a group of likeminded people with shared interests which is formed to achieve any specific objective/objectives. For example community organization, labour organization, driver union, trade union, lawyers' forum etc. A community organization is the networking of those households who have

- At least one shared interest

- Having geographical proximity
- Accept each other as partners in conservation and development

Each community organization consists of a General Body (GB) and an Executive Committee. The total members in any organization represent its GB. An executive committee of 5 to 9 members is formed from the general body members for a specific duration (not more than 3 years) to implement the decisions of community based organization. The executive committee members include but are not limited to President, Vice President, General Secretary, Joint Secretary and Finance Secretary. The executive committee members should attend monthly meetings and maintain minutes of meetings. The executive committee can appoint special committees on need basis to perform specific functions assigned to them by the executive committee. Such committees should be formed by a resolution that outlines their duties and powers.

4.2 Skill Development through Capacity Building Processes

Training need assessment (TNA) will be conducted after the formation of the community organizations. Based on the findings of TNA the capacity of executive committee members will be built. Apart from office/project managements trainings the members of CBOs will also be trained on natural resource management and alternative livelihood opportunities.

4.3 Capital Formation

Capital formation through generation of savings (individual and collective) is the key for the sustainability of community based organizations. The communities should promote individual and collective savings within their organizations. A joint bank account in the name of community organization should be opened to ensure transparency in records and for satisfaction of members.

4.4 Linkage Development with Public Institutions, Private Sector and Civil Society

Linkage development of community based organizations with government and non-government organizations is pivotal for their learning, networking, exposure and sustainability. The community organizations should be linked with various organizations at local level and if needed they will be linked with various departments outside their respective districts.

4.5 Record Keeping

The General Secretary of each community based organization is the custodian of maintaining records which include but are not limited to minutes of meetings, membership details, list of beneficiaries, defined roles and responsibilities of executive committee members, by laws, registration documentsand bank statements (for registered organizations only). The Finance Secretary will maintain records of individual and collective savings (if there is no joint bank account of CBO). The social mobilizers should regularly review the documentation process and assist community organizations in improving their documentation processes.

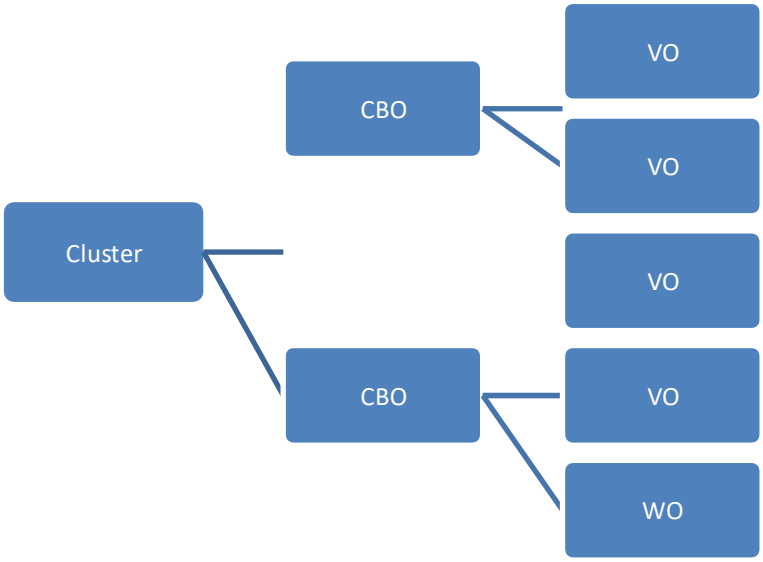
5. Three-Tiered Social Mobilization

WWF-Pakistan follows a three-tiered approach to social mobilization.

1.1 Fostering of Village Organizations (VOs). The village organizations are formed at sub-village level or within big villages. The VOs are mix organizations of men and women. If the formationof VO becomes difficult due to existing cultural norms then separate women organizations (WOs) are formed. The aim is to ensure the representation of maximum possible households (at-least 70% of the total households) in the V/WOs of any village. If the number of householdsin a village exceeds 50 then more than one VO is recommended. Each VO should have amembership not more than 50 people. The VOs don't require registration with Social Welfare Department and they will act as subsidiary organizations of Community Based Organizations (CBOs). Executive committee members are elected in general body meeting of VO and records are maintained.

1.2 Federating VOs into CBOs. The VOs are organized to form a CBO. It must be ensured that 100% representation of V/WOs is ensured in CBOs. The CBOs act as umbrella organizations of V/WOs. If the project village contains less than 50 households and there are no sub villages, then there is no need for the formation of VOs and in such cases Community Based Organization (CBO) is formed at village level. The CBOs are registered with Social Welfare Department (SWD); if they are supposed to implement field level interventions through sub contracts, otherwise there registration with SWD becomes optional. Executive committee members are elected in general body meeting of CBO and records are maintained. The duration of executive committee members should not exceed three years.

1.3 Federating CBOs into Network/Cluster: The CBOs are organized to form Network/Cluster organization. The members of clusters come from their subsidiary organizations (CBOs) and are decided through mutual consensus and the proceedings are documented and maintained at each CBO level. Similarly the executive committee members are decided in general body meeting of the cluster. The tenure of executive committee members should not be more than three years. It must be ensured that 100% representation of CBOs is ensured in the general body of clusters. The cluster/network acts as an umbrella organization of all CBOs at any specific site. The clusters/networks must be registered with SWD if they are supposed to implement selected interventions under any WWF-Pakistan's project/programme. In case of direct project implementation by WWF-Pakistan, the organization of target communities (in any form) is essential for their collective participation in planning and decision making (as much as possible) but registration with SWD is not mandatory.



Social Mobilization Approach Chart

5. Steps of Social Mobilization for New Project Sites

- Preliminary visit to the site and identification of contact persons from each village/site and take their contact details.

- Plan a Focus Group Discussion with contact persons from each community/village (within a week of preliminary visit).

- Decide a date for community dialogue at each project village/site and request contact persons to organize a community gathering on the set time and date at the project site/village to share the objectives of the project.

- Series of visits for interaction with the communities for sensitization and awareness raising.

- Identify and prioritize the needs of the target communities and prepare community action plan. Engage the local people and apply participatory assessment tools for social mapping, wealth ranking, needs identification and prioritization techniques[2], SWOT analysis, risk assessment and mitigation planning, seasonal calendar, daily activity chart etc. Compare the prioritized interventions with the proposed interventions and in case of discrepancy inform senior management for timely decision making.

- Organize the local communities into VOs/CBOs. Such initiatives must entail strong participatory processes to ensure the organizations reflect the needs and aspirations of their respective constituencies. Always ensure the representation of marginalized and poor households in community based organizations.

- Call a meeting of general body members of the organization at any central point within their village and elect office bearers or executive committee members from the general body members. Always prefer election over selection through secret voting to promote human rights based approach. The number of executive committee members will vary from 5-9 people depending upon the requirements of the organization.

- Decide date for monthly meetings of executive committee. The social mobilizer must attend monthly meetings and should be planned within the respective village. Minutes of meetings will be documented and maintained in CBO's register.

- Build capacities of CBOs' members in office management, record keeping, financial management etc. to making them technically sound.

- Monitor and evaluate the institutional maturity of community organizations and jointly agree with them how they will be involved, information will be shared, progress will be monitored and how decisions about the direction of the work will be made?

[2] Pairwise ranking or ranking by voting

- Once the CBOs are technically and institutionally viable, the project activities can be outsourced to CBOs through formal sub contracts for field level implementation and WWF-Pakistan will monitor the progress and process of implementation. In such cases the registration of CBOs with SWD becomes mandatory.

- Develop linkages of CBOs with government organizations, NGOs and CSOs working in the area and follow up visits will continue to getting community feedback and strengthening networking.

6. Steps of Social Mobilization for Existing Sites

- Preliminary visit to the site to introduce the project and conduct meeting with the community representatives and set a date for community dialogue (large gathering) meeting within a week.

- Conduct meeting for reactivation/restructuring of existing CBOs/VOs/cluster. If the CBOs/cluster were registered in earlier projects then plan for renewal of registration documents and facilitate the process.

- Assess successful and unsuccessful communal and household based interventions carried out in earlier projects, identify causes of success and failure, prepare risk mitigation plans and incorporate lessons learnt.

- Apply participatory approaches and Identify priority needs of communities and prepare community action plan.

- Build capacities of executive committee members, assess the institutional maturity of community organizations and jointly agree with them how they will be involved, information willbe shared, progress will be monitored and how decisions about the direction of the work will be made?

- Once the CBOs are technically and institutionally viable, the project activities can be outsourced to CBOs through formal sub contracts for field level implementation and WWF-Pakistan will monitor the progress and process of implementation. Registration of respective organizations with SWD is mandatory if they are supposed to implement activities through sub contracts.

- Develop linkages of CBOs with government organizations, NGOs and CSOs for accessing services and resources. Follow up visits will continue to get community feedback.

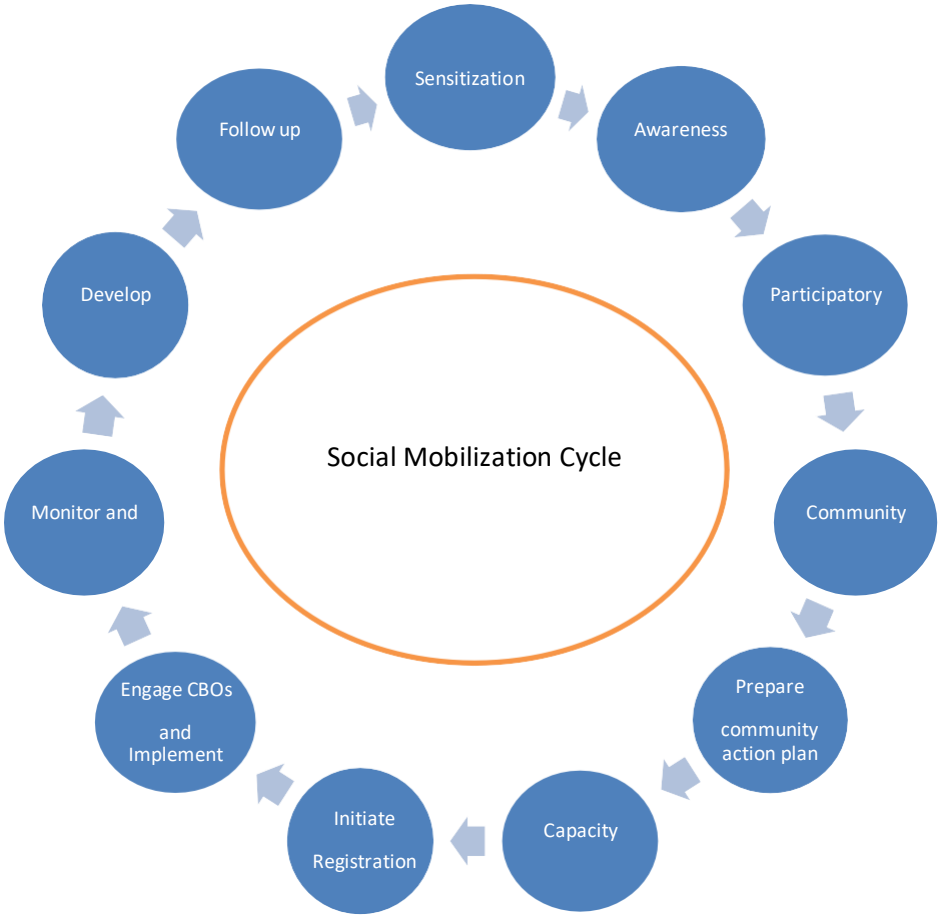
7. Main Functions of Social Mobilizers

- Conduct meetings with the community organizations at least on monthly basis and facilitate them in developing their village profiles and community action plans.

- Identify the promising activists from the communities and engage them.

- Motivate community organizations for individual and collective savings.
- Facilitate the formation of community based organizations, identify training needs and build the capacity of executive committee members to maintaining minutes of the meetings, financial records, community resolutions etc. and check them on regular basis.
- Play the role of a “Bridge” between the community and the organization.
- Make sure that the communities take part in the implementation of the project and the decisions are made through mutual consensus.

8. Social Mobilization Cycle



9. Gender in Social Mobilization

The WWF Gender Policy (2011) signifies WWF's ongoing commitment to equity and integrating a gender perspective in its policies, projects, programmes, and in its own institutional structure. WWF understands that gender refers to the socially constructed roles and opportunities associated with women and men and recognizes differences and inequalities between women and men in access to and control over resources and decision- making opportunities, in particular in relation to environmental resources. The inclusion of women in conservation projects is critical. The field teams need to be very sensitive to the cultural realities in the project areas and to understand first how is the gender perception within the target communities and their cultural perspective. The second stage is to start discussion on how to organize men and women for collective actions for conservation and development initiatives. If the inclusion of women in mix VOs/CBOs becomes difficult due to cultural, religious orsocial norms then separate Women Organizations (WOs) are formed to ensure women participation in conservation. In case of mix VOs/CBOs the representation of women in both general and executive committee should be at-least 25%. Women social mobilizers should be hired to deal with WOs if the formation of mix organizations becomes difficult due to sociocultural reasons. Social Mobilizers must be familiar with local language of the project sites.

10. Capacity Assessment of CBOs

WWF has its own format for the assessment of technical capacity, income, group management and other contents, to identify the CBO's strengths, weaknesses and needs for support. The contents of the analysis focus on three core areas of capacity, namely "to be", "to do" and "to relate" each with three sub-capacity areas (the tool should be adapted to the specific context before being used). The main function of the tool is for baseline assessments and reassessment to assess progress on results in terms of increased capacity. The template could also be used for needs assessment and planning, but if this is the main reason to carry out the survey additional questions might be needed.

11. Selection of Beneficiaries

The selection of beneficiaries for various types of support (trainings, alternative livelihood grants, both individual and communal support) in WWF-Pakistan's projects/programmes is the responsibility of respective community based organization. Selection criteria for various interventions (individual/communal) and alternative livelihood grants should be developed by the respective project team and need to be shared with local communities/organizations for review in the local context. Once the selection criteria are finalized; it will be shared with the community organizations for the selection of beneficiaries/sites accordingly. The names of beneficiaries must be finalized in community meetings and will be submitted to WWF-Pakistan along with a community resolution duly signed by respective members of community/CBO. The proceedings should be documented and maintained at CBO/cluster level. The project team should randomly verify a few of the beneficiaries to ensure fair selection. The community based organizations should keep the list of beneficiaries against each intervention and also share with respective site office of WWF-Pakistan. The projects should also sign simple contracts with beneficiaries/CBOs to make sure that they are sustainably managing both individual and communal interventions during and post project completion.

12. Complaints Resolution Process

The complaints resolution process is a result of WWF's commitment to provide a mechanism for receiving and responding to concerns raised by stakeholders who may be affected (positively or negatively) by WWF-supported conservation activities. It is a key means to strengthening implementation of WWF's social policies, addressing complaints in a timely and effective way, improves mutual understanding, strengthens accountability and provides a foundation for increased collaboration.

There are two types of complaint resolution mechanisms (CRMs) in WWF-Pakistan through which those affected by its projects can raise their grievances and seek resolutions. The country level CRM provides a forum for stakeholders to raise concern and grievances about a project directly to the country's head office, and to find satisfactory resolutions. For high risk projects, project-level CRMs are formed to resolve complaints raised by the communities/stakeholders at local/regional level. The project level CRM also includes representation from the respective communities.

Annex: Glossary of Terms and Definitions

Action Plan: A description of a project's goals, objectives, and strategies that will be undertaken to abate identified threats and make use of opportunities. It should include an explanation of why you selected these strategies, and also formal descriptions of your overarching theory of change and any core assumptions. A WWF action plan outlines what WWF's contribution is to a joint project's overall action plan.

Activity: A specific action or set of tasks undertaken by project staff and/or partners to reach one or more objectives. A good activity meets the criteria of being: linked, focused, feasible, and appropriate, sometimes called an action, intervention, response, or strategic action.

Adaptation: In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate (IPCC, 2014).

Adaptive Management: The incorporation of a formal learning process into conservation action. Specifically, it is the integration of project design, management, and monitoring, to provide a framework to systematically test assumptions, promote learning, and supply timely information for management decisions.

Assumption: A project's core assumptions are the logical sequences linking project strategies to one or more targets as reflected in a results chain diagram – see also theory of change. Other assumptions are related to factors that can positively or negatively affect project performance.

Audit: An assessment of a project or programme in relation to an external set of criteria such as generally accepted accounting principles, sustainable harvest principles, or the standards outlined in this document. Compare to evaluation.

Baseline: The existing (or initial) state in a project which serves as reference point against which changes are measured/tracked, and against which progress can be assessed or comparisons made throughout the course of the intervention. It is usually expressed quantitatively.

Beneficiaries: Group of people consisting of: those who have benefited (whether this was intended or intended, positive or negative) and individuals in the institutions and organizations that the project works with e.g. civil society, NGOs etc.

Biodiversity Target: An element of biodiversity, which can be a species or habitat/ecological system that a project has chosen to focus on. Strictly speaking, biodiversity targets refer to all biodiversityelements at a site, but typically the term is used as shorthand for a specific element of biodiversity that a project has chosen to focus on.

Climate vulnerability: The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity and its adaptive capacity (IPCC).

Community: A group of people living in the same locality and sharing some common characteristics.

Community participation: Generally considered to be the active participation of community members in local development activities. In practice, however, the term refers to a wide range of degrees of local involvement in external development interventions, from token and passive involvement to more empowerment-oriented forms of local decision-making.

Community of Practice – A group of practitioners who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis.

Conceptual Model: A diagram that represents relationships between key factors those are believed to impact or lead to one or more biodiversity targets. A good model should link the biodiversity targets to threats, opportunities, stakeholders, and intervention points, capturing the logic of the intended change behind planned strategies. It should also indicate which factors are most important for measures.

Conservation Target: A synonym for biodiversity target.

Critical Threat: Direct threats that have been prioritized as being the most important to address.

Direct Threat: A human action that immediately degrades one or more biodiversity targets. For example, “logging” or “fishing.” typically tied to one or more stakeholders. This sometimes referred to as a “pressure” or “source of stress”.

Driver: A factor identified in an analysis of the project situation that is affecting, or could affect, a direct threat. It can be an indirect threat, opportunity, or enabling condition. It is also known as contributing factor.

Enabling Condition: A broad or high-level opportunity within a situation analysis for example, the legal or policy framework within a country

Evaluation: An assessment of a project or programme in relation to specific performance criteria: quality and relevance of design, efficiency, effectiveness, impact, sustainability, and adaptive capacity.

Factor: A generic term for an element of a conceptual model including direct and indirect threats, opportunities, and associated stakeholders. It is often advantageous to use this generic term since many factors – for example tourism – could be both a threat and an opportunity.

Forecasting: It is a method for assessing the financial performance of a project or programme.

Gender: The socially constructed roles, responsibilities and opportunities associated with WWF Standards of Conservation Project and Programme Management in a society at a specific time and place.

Goal: A formal statement detailing a desired impact of a project, such as the desired future status of a target. A good goal meets the criteria of being linked to targets and 'SMART'.

Indicator: A measurable entity related to a specific information need such as the status of a target/factor, change in a threat, or progress toward an objective. A good indicator meets the criteria of being: measurable, precise, consistent, and sensitive.

Information Need: Something that a project team and/or other people must know about a project. It is the basis for designing a monitoring plan.

Lessons learned: Knowledge generated by reflecting on experiences that can be generalized. Lessons learned are generalizations based on evaluation experiences with projects, programmes, or policies that abstract from the specific circumstances to broader situations. Lesson learned summaries knowledge at a point in time, while learning is an on-going process.

Logical Framework: Often abbreviated as log frame. A matrix that results from a logical framework analysis and is used to display a project's goals, objectives, activities, and indicators in tabular form, showing the logic of the project.

Objective: A formal statement detailing a desired outcome of a project such as reducing a critical threat. A good objective meets the criteria of being outcome oriented and SMART. If the project is well conceptualized and designed, realization of a project's objectives should lead to the fulfillment of the project's goals and ultimately its vision.

Participation: One or more processes in which an individual (or group) takes part in specific decision-making and action, and over which s/he may exercise specific controls. It is often used to refer specifically to processes in which primary stakeholders take an active part in planning and decision making, implementation, learning and evaluation. This often has the intention of sharing control over the resources generated and responsibility for their future use.

Partners: The individuals and/or organizations that collaborate to achieve mutually agreed objectives. Partners may include governments, civil society, non-govern -mental organizations, universities, professional and business associations, multi-lateral organizations, private companies.

Programme – A group of jointly-managed, interdependent projects which together aim to achieve a common broad vision. In the interest of simplicity, this document uses the term "project" to

represent both projects and programmes since these standards of practice are designed to apply equally well to both.

Project – A set of actions undertaken by a defined group of practitioners – including managers, researchers, community members, or other stakeholders – to achieve defined goals and objectives. The basic unit of conservation work.

Project Team: A specific core group of practitioners responsible for designing, implementing, and monitoring a project.

Result – The desired future state of a target or factor. Results include impacts which are linked to targets, outcomes which are linked to threats and opportunities, and outputs which are linked to activities.

Results Chain: A graphical depiction of a project's core assumption, the logical sequence linking strategies to one or more targets. In scientific terms, it is equal to a "hypothesis."

Risks: A condition under which the intervention is expected to function which can cause problems or a factor identified as influencing the project results, but over which the implementing team has little influence (compare with assumption); Killer risks are those that, when not overcome, will completely stop the intervention from achieving its goals and objectives.

Risk assessment: A detailed examination of the potential unwanted and negative consequences tohuman life, health, property, or the environment posed by interventions; a systematic process to provide information regarding such undesirable consequences; the process of quantification of the probabilities and expected impacts for identified risks.

Social Policies: A series of guidance developed and agreed by the Network and that need to be applied to the design of interventions to ensure they are effective and consider sufficiently the social dimensions of conservation interventions. These currently relate to: Indigenous peoples, poverty, gender and civil society.

Stakeholder: Any individual, group, or institution who has a vested interest in the natural resources of the project area and/or who potentially will be affected by project activities and have something to gain or lose if conditions change or stay the same.

Strategy: A group of activities with a common focus that work together to reduce threats, capitalize on opportunities, or restore natural systems. Strategies include one or more activities and are design to achieve specific objectives and goals.

Sustainability: The continuation of benefits from a conservation intervention after major assistance has been completed; the probability of continued long-term benefits and/or the resilience to risk of the net benefit flows over time.

Target: What the project ultimately wants to affect in a positive manner. Sometimes used as shorthand for biodiversity/conservation target. Usually targets are related to biodiversity but in some cases human wellbeing targets may be defined as well.

Task: A specific action in a work plan required to implement activities, Monitoring Plan, or other components of a strategic plan.

Theory of Change: A narrative description and/ or diagram linking a project strategy to what the strategywants to achieve (long-term objectives and goals). Often expressed in the form of a diagram such asa Results Chain that clarifies the project's logic, combined with a statement of an overarching approach or philosophy that the project considers to be 'true' (and for which there is good supporting evidence).

Threat: A human activity that directly or indirectly degrades one or more targets. Typically tied to one ormore stakeholders.

Vision: A description of the desired state or ultimate condition that a project is working to achieve. A complete vision can include a description of the biodiversity of the site and/or a map of the project area as well as a summary vision statement.

Work plan: A short-term schedule for implementing an action, monitoring, or operational plan. Work plans typically list tasks required, who will be responsible for each task, when each task will need to be undertaken, and how much money and other resources will be required.

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Terms of Reference

CBO

Village Organization

Village Organizations (VO) are formed at sub-village level or within big villages. The VOs are mixed organizations of men and women. The aim is to ensure the representation of maximum possible households (at-least 70% of the total households) in the VOs of any village. The CBO acts as an umbrella organization and the VO acts as a subsidiary organization. The major aim and goal of VOs is to ensure quick and robust implementation of the community development plans especially through funds collection for the Operation & Maintenance (O&M) of the interventions in collaboration with CBO.

Aim:

To bring together diverse communities to help them to develop a shared vision for a water sensitive city (WSC).

Objectives:

- To assist the CBO in advancing its objectives through increasing representation of the people.
- Collection of Funds for the O&M of the interventions installed under the Australia Pakistan Water Security Initiative.

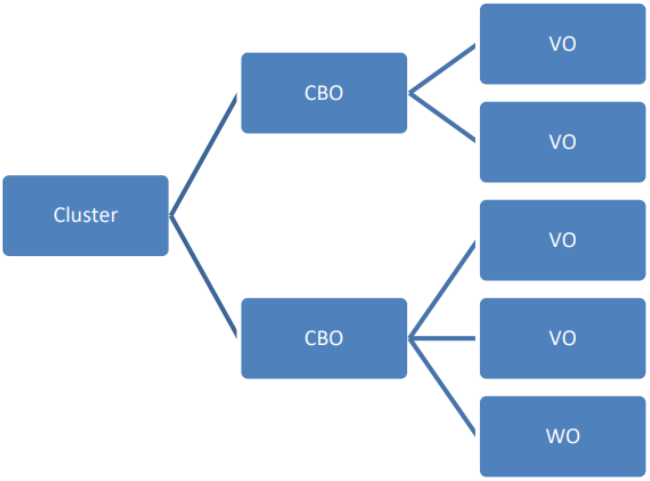
Structure:

Executive Body: There will be 05 office bearers i.e

- President
- Vice President
- General Secretary
- Finance Secretary
- Administrator

General Body: At least 20 members. In case of unified VO i.e., a VO which includes both genders then equal representation of both the genders must be ensured.

As mentioned earlier VO works under the guidance of CBO. The executive body will be responsible for smooth functioning of VO administrative level matters as well as will be looking after the O&M related responsibilities of communal level interventions along with funds collection under the supervision of their respective CBO.



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Responsibilities/ ToRs:

1. Complete voluntary participation of the members which does not involve any financial support from APWASI/ WWF-Pak.
2. The roles and responsibilities of the members include, but are not limited to
   (i) Providing information (i.e.VO will help in developing socio-economic profile of the target site focusing on the issue related to water as well as VO will be used as a platform in respect of awareness and education of the target community.
   (ii) Advocacy on Water sensitive cities approach
   (iii) Funds Collection
   (vi) Arrangements for O&M (Operation and Maintenance) of communal interventions under VO's geographical limits
   (vii) Knowledge Sharing of best practices taught by WWF-Pakistan,
   (viii) Decision making through cumulative consensus,
   (ix) Collaboration and reach-out to governmental and non-governmental institutions.
3. Venue arrangements
4. The core values for APWASI VO should be based on:
   - Social justice
   - Equal access to the provided services
   - Define target population of especially abled and vulnerable groups
   - And to express idealistic goals or outcomes

Selection Criteria:

The VO member should be;

- Permanent resident of the selected community
- Literate
- Show willingness & enthusiasm for voluntary work
- Availability/ commitment to participate in VO meetings/ events

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Terms of Partnership (ToP)

(Project Title)

Funding Agency:

Project Background and Rationale:

Location(s):

Interventions/Activities covered under this ToP: *Refer to consent form attached as* ***Annex 'A'.***

THIS PARTNERSHIP AGREEMENT is made on this __DAY___ of _MONTH_, __YEAR__, by and between the following individuals/entities:

1. WWF-Pakistan
2.

The individuals/entities listed above hereby agree that they shall be considered partners in the work, for the following:

- Interventions/activities of the project.
- Documentation of the project interventions/activities (in writing preferably).
- Accountability for information and equitable benefit sharing amongst the community.
- Transparency in all relevant matters.
- Sustainability and maintenance of project interventions/activities

The specific responsibilities of the partners are as follows:

Responsibilities of WWF-Pakistan

Think about the following:

1. Sharing of resources (specify percentage for every resource named)
2. Monitoring and evaluation
3. Modalities and Frequency of site visits
4. Quality Control / Assurance mechanisms
5. Coordination and Reporting to funding agency

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Responsibilities of _____

Think about the following:

1. Sharing of resources
2. Maintenance of detailed financial or progress records
3. Resolution of community level disputes or conflicts as relevant to project interventions/activities
4. Maintenance timelines/periods for project interventions/activities
5. Dissemination of information amongst community
6. Beneficiary selection

Terms and conditions of suspension of work or complete withdrawal:

Specify conditions which will lead to a suspension of work or trigger complete withdrawal from the project for either party. How will intent for suspension or withdrawal be communicated and what will be the consequences (if any) for either party.

Signatories

WWF Pakistan	_____
Signature----------	Signature----------
Name	Name
Designation	Designation
CNIC#	CNIC #

Witness 1	**Witness 2**
Signature----------	Signature----------
Name	Name
Designation	Designation
CNIC#	CNIC #

ANNEX 'A': APPROVAL & CONSENT FORM – *CBO*

Project Title	
Duration	
Location / Project Site	
Project Goal(s)	

Activity / Intervention *(Instructions: please provide a list of only those activities / interventions which will be implemented in the above-mentioned project site with high confidence)*	**Positive Impacts**	**Negative Impacts**	**Proposed Mitigation Measures**

	Yes	No	N/A
We acknowledge that the project's goals and activities/interventions and related impacts and risks have been explained to us and we understand them.			
We acknowledge that we have been given the opportunity to ask questions about the project and been responded to satisfactorily at this time.			
We acknowledge that the procedures for ensuring confidentiality as relevant to my involvement in the project have been explained to us and we understand them.			
We acknowledge that the feedback collection and grievance redress mechanism(s) for the project have been explained to us and we understand them.			
We understand that our participation in or agreement to the project's activities / interventions is entirely voluntary and we possess the right to withdraw the same, fully or partially, in accordance with provisions of Terms of Partnership (Annex __)			
We, the undersigned, consent to: - **the project's interventions/activities as outlined above and my participation in the same as required in accordance with provisions of Terms of Partnership.** - **the recording and archiving of any verbal and non-verbal data or information (except for personal information), as provided by me and as relevant to the project, and the use of the same in research and analysis and other published outputs for the project.**			

Chairman / President CBO					
	Signature or Thumb Impression	**Name**	**CNIC (if applicable) of respondent**	**Date**	**Contact (phone, email or home address)**
Vice Chairman / Vice President CBO					
	Signature or Thumb Impression	**Name**	**CNIC (if applicable) of respondent**	**Date**	**Contact (phone, email or home address)**

General Secretary CBO					
	Signature or Thumb Impression	**Name**	**CNIC (if applicable) of respondent**	**Date**	**Contact (phone, email or home address)**

WWF Official / Representative		
	Signature	**Name & Designation**

ANNEX 'A': APPROVAL & CONSENT FORM – *Individual*

Project Title	
Duration	
Location / Project Site	
Project Goal(s)	

Activity / Intervention *(Instructions: please provide a list of only those activities / interventions which will be implemented in the above-mentioned project site with high confidence)*	**Positive Impacts**	**Negative Impacts**	**Proposed Mitigation Measures**

	Yes	No	N/A
I acknowledge that the project's goals and activities/interventions and related impacts and risks have been explained to me and I understand them.			
I acknowledge that I have been given the opportunity to ask questions about the project and been responded to satisfactorily at this time.			
I acknowledge that the procedures for ensuring confidentiality as relevant to my involvement in the project have been explained to me and I understand them.			
I acknowledge that the feedback collection and grievance redress mechanism(s) for the project have been explained to me and I understand them.			
I understand that my participation in or agreement to the project's activities / interventions is entirely voluntary and I possess the right to withdraw the same, fully or partially, in accordance with provisions of Terms of Partnership (Annex __)			
We, the undersigned, consent to: - **the project's interventions/activities as outlined above and my participation in the same as required in accordance with provisions of Terms of Partnership.** - **the recording and archiving of any verbal and non-verbal data or information (except for personal information), as provided by me and as relevant to the project, and the use of the same in research and analysis and other published outputs for the project.**			

Community Member					
	Signature or Thumb Impression	**Name**	**CNIC (if applicable) of respondent**	**Date**	**Contact (phone, email or home address)**

WWF Official / Representative		
	Signature	**Name & Designation**

Appendix 7: Categorization Memo[40]

WWF Environmental and Social Safeguards -
Risk Categorization Memorandum

Version 2.1 November 2020

Project Name: Recharge Pakistan-Building Pakistan's Resilience to Climate Change through Ecosystem-Based Adaptation for Integrated Flood Risk Management	**Date:** December 20, 2021

Executing Agency/ies:
1. World Wide Fund for Nature - Pakistan (WWF-Pakistan)
2. Federal Flood Commission (FFC), Ministry of Water Resources (MoWR), Government of Pakistan
3. Ministry of Climate Change (MoCC), Government of Pakistan

Landscape Categorization on E&S Risks:

High Risk - (A) ___and/or (Special Consideration) _X__ /Medium Risk (B) ___ / Low Risk (C)___

Substantive Safeguard Standards Triggered:	**Yes/ TBC**	**No**
Natural Habitats	**X**	
Pest Management	**X**	
Indigenous Peoples	**X**	
Restriction of Access & Resettlement	**X**	
Community Health, Safety and Security	**X**	
Physical and Cultural Resources	**X**	

In addition to the Substantive Safeguards above, the four Process Standards apply to all projects:

- **Environmental and Social Risk Management**
- **Consultation and Disclosure**
- **Community Stakeholder Engagement**
- **Grievance Mechanism**

Landscapes categorized as low risk have been screened in accordance to the Standard on E&S Risk Management.

Project Area Context

The main drivers and threats behind environmental change and biodiversity loss is increasing temperatures due to climate change, leading to erratic rainfalls leading to unpredictable and flashfloods. Pakistan is ranked as the 8th most affected country in the world on Germanwatch's Long-Term Climate Risk Index (2000-2019), with losses from recent disasters amounting to USD 3.8 billion in Purchasing Power Parity terms (Eckstein et al., 2018). In addition, Pakistan is one of the most water-stressed countries of the world, with average per capita water availability of 964 m3 per annum (Government of Pakistan, 2014). Moreover, studies indicate that Pakistan will reach 'absolute scarcity' water levels by 2025 (Government of Pakistan, 2018) due to depleting ground-water resources, thereby adding to climate change induced vulnerabilities of millions of poor people affected by lack of water, food and energy security

The six project sites are scattered along a 1300km stretch of the Indus River from the Tarbela Dam to Kotri Barrage and include a mix of upstream (watersheds and hill torrents) and downstream (wetlands and floodplains) sites. The Indus River is Pakistan's lifeline, and is now experiencing catastrophic floods and droughts exacerbated by climate change. Pakistan relies on costly hard-infrastructure flood and water management measures with limited efficacy. Through this

[40] Please note that this Categorization Memo is an internal WWF US GCF Agency form, and the categorization of the project as "Special Consideration" does not have a GCF equivalent. This project is a Category B under the GCF. At the time of this screening, the US government withdrawal in Afghanistan was anticipated to have potential transboundary affects in Pakistan that required further internal review, hence the categorization under WWF US policy as "Special Consideration". As of June 2023, these anticipated transboundary impacts have not happened, and the project is now considered a Category B within WWF US GCF Agency standards as well.

project the WWF-Pakistan will build Pakistan's climate resilience and water security through cost-effective ecosystem-based adaptation interventions. The project has three specific components:

Component 1: Ecosystem-Based Adaptation for Integrated Flood Risk Management: Floodwater and hill torrent management improved, through ecosystem-based adaptation at selected sites across the Indus Basin

Component 2: Enhancing Resilience of Vulnerable Communities to Climate Change: Adaptive capacity of communities vulnerable to flood risks is strengthened

Component 3: Enabling a Paradigm Shift towards Ecosystem-Based Adaptation in Pakistan: Regulatory framework is in place for integrated flood risk and water resource management

Summary of Key Safeguard Issues

Natural Habitats

Overall, activities of the Project will produce significant conservation and climate adaptation benefits, but this Standard has been triggered because some of the activities proposed in the pre-feasibility could have an impact on biodiversity and the integrity of terrestrial or aquatic ecosystems if adequate mitigation measures are not in place. In particular, there are four proposed activities that are of particular concern, and will require strong safeguard measures to be in place to ensure no lasting damage to natural habitats or the people that rely on them occur. These potential activities include:

- The proposed **dredging** to clean Lake Manchar of sediment, which could lead to large disturbances to the lake and temporarily increased suspended sediment concentrations which could lead to disturbance of aquatic life.
- **Re-vegetation**, proposed for almost all sites except for Chotiari. Some of the issues identified with this activity is loss of agricultural land, and in some cases an increased flooding extent upstream of the planted vegetation due to larger backwater effects. Additionally, in hill torrent sites, increased infiltration of water may lead to a reduction of available water downstream which could also have an impact on the ecosystem now dependent on a consistent flow of water flowing downstream.
- The **construction of retention and rain ponds**, proposed to be implemented in DI Khan and Kaha could lead to the removal of vegetation, and change in land use which could have a potential impact on the biodiversity dependent on the land converted to construct the ponds.
- **Terracing**, proposed to be implemented in DI and Chakar Lehri, both hill torrents, could potentially lead to habitat conversion and soil degradation. Moreover, terracing large areas can affect the hydrological cycle and thereby limit the water availability downstream. In addition, poorly designed and/or poorly maintained terraces can increase erosion. If the terrace has a high inclination this could create gullies with focused runoff, ponding of water and overtopping, leading to damaged terraces.

Pest Management

This Standard has been triggered out of an abundance of caution, and due the fact that not all project activities have been determined yet. The project includes interventions such as riverine afforestation, afforestation in general (re-vegetation), nursery raising, change in agricultural practices (land use management with a focus on growing alternative crops, and changing cropping methods, reduced capacity for certain popular crops). Even though the project does not directly promote the procurement and use of pesticides, there could be possibility that the interventions outlined above could lead to the procurement and use of pesticides. Due to these activities, a Pest Management Plan will be prepared as part of the ESMF to conform to WWF's Environment and Social Safeguards Framework.

Indigenous Peoples

While recognizing that Pakistan does not legally recognize any indigenous peoples, using the GCF definitions and self-identification, several indigenous peoples live in two of the project sites, and therefore this Standard has been triggered. In Chakar Lehri (Bakhtiarabad), the Watersprint consultant team identified the presence of the Bagri community, and a number of other tribes who they believe live in isolation. More information is needed here, especially related to the communities living in isolation, and will be gathered when the ESS consultants are hired (January 2022).

In Manchar (Dadu), the Mohana tribe who are a fishing community also known as the "Bird People" or "Lords of the Sea", are descendants of the first inhabitants of the Indus valley, (and which can be traced back 5000 years). The remains of the original settlement can be seen at the archeological site of Mohenjo-daro which once stood on the banks of the Indus. Here a tiny Mohana community still lives in one of the last remaining floating villages on Lake Manchar. As the specific activities and locations of the project's activities are not yet defined, an Indigenous Peoples Planning Framework will be prepared as part of the ESMF to conform to WWF's Environment and Social Safeguards Framework.

Restriction of Access & Resettlement

There will be no involuntary resettlement of individuals and/or families under the proposed project. This standard is triggered because there may be some small areas of land acquisition which are to be determined. The project may also affect some peoples in the Manchar (Dadu) project area. As per the project activities identified in the pre-feasibility, certain interventions, specifically those pertaining to cleaning up the lake, could lead to changes in tenure arrangements, community-based property rights or customary rights to land, territories, and or resources, ban on hunting / fishing tools / methods or equipment for harvesting, and temporary closure of areas. The consultant notes that currently, in order to improve lake quality and fish quantity, temporary restrictions are imposed by communities themselves on hunting, fish catch, and use of improper size nets. As the specific activities and locations of the project's activities are not yet defined, a Process Framework will be prepared as part of the ESMF to conform to WWF's Environment and Social Safeguards Framework.

Community Health, Safety and Security

This Standard is triggered for two different reasons, the first directly project-related and the second more closely tied to the country context. The first is directly tied to the project, and is due to potential activities involving small-scale construction of rock weirs, lake dredging and removal of riverbed obstructions. Additionally, some potential activities could lead to reduced access to water for irrigation purposes, especially for communities living downstream, which could lead to reduction in crop yields, such as Kaha, Chakar Lehri, and even Di Khan. Dredging activities in Manchar Lake could harm the aquatic biodiversity in the lake, affect water turbidity, and water table levels, which could resultantly impact the health of the fish species and its quantity, thereby leading to a potential reduction in fish catch. These two activities could affect food security. The lowering of the water level in the Chotiari reservoir could also lead to a reduction in water for irrigation purposes for agricultural activities, and again could see reduced crop yields.

The second reason this standard is triggered is related closely to the political, social and security context in Pakistan, though it is different in each project site. In project sites such as Manchar Lake (Dadu), Chotiari Reservoir, Haleji, and Hadero, all situated in Sindh, the security situation is relatively stable and law and order is not an issue. However, in project sites such as Kaha and Chakkar Lehri, situated in Balochistan (and partially in Punjab), the security situation is a bit more complex. Balochistan is the most underdeveloped region/province in Pakistan, despite being the largest by size, and has seen separatist movements and infighting between tribes, and between Pakistani law enforcement agencies and separatist movement, such as the Balochistan Liberation Army (BLA). The communities that reside in Balochistan mistrust the Pakistani Military and the Pakistani Government, hence access to certain sites in Balochistan is difficult, if not dangerous. DI Khan, which is situated in the province of Khyber Pakhtunkhwa, sees sporadic incidents of violence and attacks, often carried out and claimed by terrorist groups, such as offshoots of the Tehreek-e-Taliban Pakistan. There is a concern that the situation in Afghanistan may embolden terrorist factions in Pakistan.

The proposed activities may not lead to any increase in violence, however a better assessment can be made once the relevant sites and activities are finalized. The ESMF will include guidance on labor and working conditions and because of the conflict context where this project will work, an analysis of how these conflicts overlay with the Recharge project activities is necessary to understand impact of project on these conflicts and vice versa. This analysis and any resulting mitigation measures will be included in the ESMF.

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Physical and Cultural Resources

This Standard is triggered for two reasons, the first needing more information but the second site at Lake Manchar triggering the standard with current information. At the first project area in Di Khan, there are historical structures built on the Luni and Gomal river diversion point near to Kot Azam, that were completely damaged during 2010 super floods. More information is needed as to the extent of the damage and whether they continue to hold cultural significance regardless of the damage.

The second site in the Manchar-Hamal Watershed, Lake Manchar, is also an important historical area. It is home to several archeological sites, and there are likely intangible cultural resources for the Mohana people. These people have been here, co-existing with the lake for 5000 years and have innumerable tangible and intangible cultural ties to the lake. As the specific activities and locations of the project's activities are not yet defined, a Physical and Cultural Resources Framework will be prepared as part of the ESMF to conform to WWF's Environment and Social Safeguards Framework.

Summary of Cross Cutting Issues; (Human Rights, Gender Equality and Women's Rights, Children's Rights, Conflict Sensitivity and Climate Change).

All of these cross-cutting issues may be seen in the project sites, and will require special consideration in the ESMF.

Human Rights: The human rights situation is different in each project site. In project sites such as Manchar Lake (Dadu), Chotiari Reservoir, Haleji, and Hadero, all situated in Sindh, other than lack of access to basic services such as health, education, clean water etc, the situation is relatively stable and law and order is not an issue.

However, in project sites such as Kaha and Chakkar Lehri, situated in Balochistan, major human rights issues do exist. These include forced disappearances of individuals who are allegedly overly critical of the government, the military, or who have alleged ties with the Balochistan Liberation Army (BLA) (an ethnonationalist militant organization fighting against the Pakistani government for greater regional autonomy/self-determination of Balochistan.) Extra-judicial killing of those allegedly gone missing is also common. Balochistan is the most underdeveloped region / province in Pakistan, despite being the largest by size, and has seen separatist movements and infighting between tribes, and between Pakistani law enforcement agencies and separatist movement, such as the Balochistan Liberation Army (BLA). The communities that reside in Balochistan mistrust the Pakistani Military and the Pakistani Government, hence access to certain sites in Balochistan is difficult, if not dangerous which could lead to delay in the implementation of project activities.

DI Khan, which is situated in the province of Khyber Pakhtunkhwa, sees sporadic incidents of violence and attacks, often carried out and claimed by terrorist groups, such as offshoots of the Tehreek-e-Taliban Pakistan. There is a concern that the situation in Afghanistan may embolden terrorist factions in Pakistan

Gender Equality and Women's Rights: A Gender Assessment and Gender Action Plan will be required for this project. Gender inequality exists across the entire country, and although there are some site-level exceptions, women are generally excluded from community decision-making and some communities are highly segregated by gender. More information will also need to be gathered about the specific gendered uses of water resources, as that is currently lacking.

Children's Rights: There are significant issues in some of the communities in the Kaha region like access to education and health facilities. According to the initial assessment of Kaha some of the communities don't have any school for boys and girls, and in some communities, there is no separate school for girls. So, girls have to study in boys schools, and as a result, parents don't allow their daughters to study at all, as it would mean putting them in boys' schools or study from males teachers. Additionally, there is no access to formal education or schooling in Kaha (and potentially other areas), most children work for their families or receive training in family led businesses or occupations so that they can take over when they grow older. The project will have to ensure that child labor is not inadvertently condoned or used during the project activities.

Conflict Sensitivity: Because of the conflict context mentioned above in the Human Rights section, an analysis of how these conflicts overlay with the Recharge project activities is necessary to understand impact of project on these conflicts and vice versa. Moreover, in the hill torrent project sites some of the proposed activities could affect downstream communities, leading to conflict between communities as a result of project activities. Additionally, access to project benefits, especially those related to livelihood interventions, could also potentially lead to conflict. This analysis and any resulting mitigation measures will be included in the ESMF.

Climate Change: This project is aimed at addressing the impacts of climate change, namely extreme flooding in some parts of the year and lack of reliable water in others as well as salinification of water systems and lake desertification. Because all of these risks exist in the project area, they could pose threats to project implementation despite the fact the project is meant to reduce them over the course of the 10 year project cycle.

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Required Actions for Impact Assessment (ESIA) and Mitigation Framework (ESMF):

An Environmental and Social Impact Assessment will be required for this project, in order to create an effective Environmental and Social Management Framework. The ESMF will also include an Indigenous Peoples Planning Framework, a Process Framework, A Physical and Cultural Resources Planning Framework, a Pest Management Plan and guidance on labor and working conditions.

Because of the conflict context where this project takes place, an analysis of how these conflicts overlay with the Recharge project activities is necessary to understand impact of project on these conflicts and vice versa. This analysis and any resulting mitigation measures will be included in the ESMF.

Additionally, a Grievance Redress Mechanism, Gender Assessment and Gender Action Plan will be submitted with the Funding Proposal.

Signature: DocuSigned by: Adrienne McKeehan CF38CBFE14D14A7... **Date:** 12/28/2021

Name: Adrienne McKeehan

Position: Safeguards Specialist

Signature: DocuSigned by: Brent Nordstrom DD6030B6C7E2446... **Date:** 12/28/2021

Name: Brent Nordstrom

Position: Safeguards Compliance Officer

Appendix 8 – Site Selection Criteria

This Appendix has been added to Annex 6 to explain the project site selection criteria, which includes flood risk, socio-economic/biophysical vulnerability, and ecological score. These criteria are interconnected with environmental and social safeguards, and this Appendix contains complementary information drawn from the Feasibility Study, demonstrating the site selection is inclusive of concerns for environmental and social risks.

Interventions analysis and selection

Throughout this report, we distinguish between different types of solutions. These are defined below.
Ecosystem-Based Adaptation (EbA). EbA involves the conservation, sustainable management, and restoration of ecosystems that can help people adapt to the impacts of climate change. EbA is a nature-based solution that harnesses biodiversity and ecosystem services to reduce vulnerability and build resilience to climate change[41]. EbA-solutions are defined as actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits[42].
Green infrastructure (GI). GI refers to any vegetative or natural material infrastructure system which enhances the natural environment through direct or indirect means[43]. It is the range of measures that use plant or soil systems, permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspiration stormwater and reduce flows to sewer systems or to surface waters[44]. In this study, the construction of new elements in the landscape using natural materials, i.e. clay, sand, and stones, which contribute to climate change adaptation is considered green infrastructure.
Grey infrastructure. From the perspective of Natural Water Retention Measures (NWRM), grey infrastructure usually refers to the use of engineering interventions that use concrete or steel materials to manage water flows.[45] The construction of these structures often results in significant negative impacts on the surrounding environment through the use of heavy machinery.
Climate-Smart Agriculture (CSA). In this study, climate-smart agriculture (CSA) is considered as integrated approach to managing landscapes—cropland, livestock, forests, and fisheries — that addresses the interlinked challenges of food security and climate change [46] in an environmentally sustainable way.
Albert et al. (2020) highlight the following methodological framework for planning interventions.

1. **Criteria of intervention and additional characteristics.** The term "criteria" is used to describe requirements that every application of an intervention type must meet. The term "additional characteristics" refers to attributes that are frequently associated with the intervention type, but which may or may not be present in each application of that intervention. For instance, the claim that an intervention type contributes to job creation will probably be true for some of the interventions but not for all the interventions in practice. The key criteria are:
    a. Challenge Orientation

[41] *IUCN https://www.iucn.org/sites/dev/files/import/downloads/ecosystem-based_adaptation_issues_brief_final.pdf*
[42] *Cohen-Shacham et al., 2016*
[43] *WGIN, Key definition: Green Infrastructure, https://worldgreeninfrastructurenetwork.org/key-definition-green-infrastructure/*
[44] *EPA, What is Green Infrastructure, https://www.epa.gov/green-infrastructure/what-green-infrastructure*
[45] *Natural Water Retention Measures, NWRM.eu*
[46] *The World Bank, Climate-smart agriculture, https://www.worldbank.org/en/topic/climate-smart-agriculture*

b. Ecosystem process utilization
c. Practical viability

2. **Essential planning steps.** These describe components of a planning cycle with EbA embedded in a given governance setting. Key planning steps are:
    a. ***Co-define setting***. This step clarifies the context, overarching societal challenges, aims, and processes of the project. It is usually considered in close collaboration with key decision-makers and stakeholders. For instance, the project team WWF has already identified influential and affected stakeholders and devised a strategy for their systematic involvement that led WWF to co-designing and co-implementing the Recharge Pakistan together with them.
    b. ***Understand challenges***. This step relates to the respective defining criteria of EbA based on a practical approach. It assesses the specific societal challenges of a project's need in the context of existing problems or opportunities across spatial and temporal levels. The essential dimensions of the society include actors, networks, and problem perceptions. Legislative dimensions can be the existing aims, discrepancies between aims across institutions and hierarchical levels, and require institutional changes. Ecological dimensions contain the risks of abrupt and irreversible ecosystem changes. Next, the dimensions of human–nature relationships need to be considered, for instance, through ecosystem service delivery and demand or a sense of place. A clear understanding of societal challenges such as water management, flood management, public health, and well-being can be supported with systemic mapping tools.
    c. ***Create visions and scenarios***. This step involves the identification as well as spatial and temporal localization of options for siting EbA within a given context or landscape. Developing scenarios lead to visualizing creative and imaginative thinking to consider the different perspectives and relate them to the relevant stakeholder views/ acceptance, which ultimately enables the finalization of EbA in a particular setting. Refer to the following sections for archetype templates — specifically designed for Recharge Pakistan.
    d. ***Assess potential impacts***. This step evaluates the potential costs and benefits of EbA. While doing so, it also considers the social and ecological values and other alternatives to mitigate the risks.
    e. Develop solution strategies. This step develops feasible governance, business, and socio-economic models for the implementation of EbA. It also considers preferred interventions and their fair weighing as compared to the pros and cons of other alternatives. It targets the place-specific context and addresses the multiple barriers to implementation, such as inadequate financial resources and regulations, institutional fragmentation, uncertainty regarding the implementation and effectiveness, limited land and time availability, etc. For the implementation of EbA at the landscape level, the creation of new regulatory bodies and additional distributed but coordinated and integrated governance models inculcated with the community are advisable.
    f. ***Realize and monitor***. This step includes the implementation of EbA -interventions and their critical monitoring. This step comes after the design stage and when the construction of EbA starts.
3. **Planning principles.** These are basic theorems that guide the procedural implementation of the steps for planning EbA. Key guiding principles are:
    a. ***Place-specificity***. It is essential as both societal challenges and potential EbA are always context-specific. During planning, general solutions need to adapt to local conditions and challenges to ensure resource efficiency and resilience to change. Experience shows that EbA which does not consider local conditions can cause negative effects and mismatch

between a particular action and the socio-spatial context – it implies that the envisaged EbA does not qualify as a 'solution'.

b. ***Evidence base***. EbA planning needs to be based on evidence, i.e. available information and knowledge for a specific EbA in a particular setting to infer reliable recommendations and actions. Skills are required to find reliable research evidence to apply it to specific application cases and to evaluate the effects of an empirically grounded intervention.
c. ***Integration***. It means considering thematically related approaches, and temporal, spatial, and sectoral scales within the planning process and policies in the governance context. The design and planning of EbA integrate insights and methods from various already established ecosystem-based approaches such as ecosystem services, green and blue infrastructure, ecological engineering, ecosystem-based management, and natural capital. It should also integrate assessments of social and economic benefits of solutions that combine technical, business, finance, governance, regulatory and social innovation. Integration across spatial and temporal scales is an essential concern, as the EbA effect may fluctuate over space and time and need longer periods for effective and full delivery of potential ecosystem services and societal benefits when they are compared with the effects of structural measures.
d. ***Equity***. It should be considered along four interlinked dimensions: recognition, procedure, distribution, and context. This means recognizing the rights, values, norms, traditions, culture, and interests of different actors, building on the inclusive and effective participation of all relevant actors, equal distribution of costs and benefits amongst the actors, and considering the action-shaping context created by the pre-existing political, economic, and social conditions. It can be used as a guiding principle regarding both organized participation and the planning outputs that are being delivered. The planning team can aim at organizing a socially and economically inclusive planning process and promote transparency and broad participation fairly and equitably.
e. ***Transdisciplinary***. It refers to the cooperation of researchers from different disciplines and non-academic participants to create new knowledge and answer common questions.

These criteria align with the site selection criteria around flood risk, socio-economic/biophysical vulnerability, and ecological score. Additionally, they align with the local objectives/challenges and are practical and can make use of potential ecosystem processes to meet the objective and have the potential to generate co-benefits of social-economic criteria. For alignment with the climate rationale for the project, sites will need to use climate science and hydrological modelling to show a clear climate hazard, exposure, and thus vulnerability as well as the requirement for strengthened adaptive capacity at each site. Table 0-1 sets out the key benchmarks for developing criteria for the selection of project sites by considering the framework conditions mentioned above. We propose the following metrics as selection criteria for Recharge Pakistan.

Table 0-1: Criteria for the selection of project sites for the implementation of interventions for Recharge Pakistan.

Criteria	Description	Methods, techniques and tools
Challenge Orientation	The hill torrents are affected by climate change risks and increased flooding and therefore can be protected through climate change adaptation and disaster risk reduction measures. The lakes are affected by environmental degradation/	Sites show how they fit into these challenges. And that evolving climate risk exacerbates these problems. System understanding is developed through reconnaissance,

	hazards and fast-scale loss of biodiversity and can be protected through conservation and environmental footprint reduction.	interpretation of local/global datasets, and using models. Data from climate models are fed into the hydrological models to clearly show the impact of climate and thus the need for action at the chosen sites.
Mapping opportunity spaces	Based on the already identified 11 intervention areas, delineated sub-catchments/basins, and specific biophysical spatial criteria, hydrological models are developed and used for inspiration to identify and map opportunity spaces within the project areas/sites that could function as EbA.	System understanding through reconnaissance, interpretation of local/global datasets, and using models.
Type of - intervention	Different groups proposed to require different possible interventions to be taken from the inventory of EbA (Alam et al., 2021a; Table 1, See Below). The need for these interventions is evaluated by the following templates as shown below.	Inventory of EbA (Alam et al., 2021a; Table 1). EbA archetypes templates are developed and provided below.
Technically feasible	It is one of the most fundamental criteria for the selection of sites. Are the sites practical? Are the proposed interventions technically feasible?	It needs to be evaluated through spatial and temporal maps, reconnaissance, catchment delineation, and modelling results from WFLOW and 3Di.
Hydrologically sustainable	It is among the high-impact criteria to be checked by using the modelling tools mentioned in this report to evaluate the consistent supply of water to the proposed EbA during the rain/flood season.	Global and local datasets, WFLOW and 3Di. Refer to the Process flow diagram
Adaptative and resilient to climate	Another high-impact criterion requires creating visions and scenarios to assess the potential impact of a proposed intervention in a particular space – both from socio-economic benefits and increased resilience to climate-related risks.	Global and local datasets, climate modelling and projections, WFLOW, and 3Di.
Hydrodynamically possible and stable	Another key criterion is to check the stability of a proposed EbA hydrodynamically and whether it is possible to proceed with it or not.	Global and local datasets, climate modelling and projections, WFLOW, and 3Di.
Stakeholder consensus	The proposed intervention at particular sites demands multi-stakeholder workshops for building a joint consensus	Structured and focused discussions and evaluation of EbA-interventions at proposed project sites by using 3Di

	over the possible interventions at particular spaces/sites.	and Lizard technology in a workshop format (Alam et al., 2022). EbA archetypes as mentioned below.
Adaptative to the respective ecosystem for process utilization	intervention should be compatible and adaptive to the respective ecosystem within the acceptable level of human interventions.	Evaluation of interventions at proposed project sites by using models.
Impact potential	The project sites must show expected change from the project in terms of the life value of physical assets, livelihoods, and environmental and social considerations. The project site needs to be well apprehended on the number of beneficiaries.	Monitoring and evaluation.
Needs of the recipient (i.e., ability to scale up)	Addressing the barriers to implementing interventions at scale in Pakistan	Individual interviews and focused group discussions with stakeholders (Alam et al., 2022).
Country ownership	Alignment of the nationally determined contributions (NDC) with key national policies and international commitments.	Desk and peer review.
Efficiency and effectiveness	Includes the application of best practices. And it demonstrably works.	Inventory of best practices. The model shows how much flood peak is delayed or return periods reduced.
Paradigm shift and ability to scale up	How the project site changes the way water resources are managed in Pakistan and river basin management in the areas/region, as GCF intends to see how a project can be scaled up for sector-wide impact.	Visualization through models (for instance, 3Di).
Generate co-benefits	Intervention co-benefits (e.g., environmental, social, economic, social cohesion, health, biodiversity improvement, job creation, etc) are desired.	Spatial and temporal assessments of ecosystem services.
Sustainable development potential	This includes demonstrating economic, social environmental and gender co-benefits.	Qualitative content analysis of development goals of EbA in their respective project sites for comparison with UN's SDGs.

Table 10.3: Overview of possible interventions in rivers from upstream to downstream. [47,48]

	INTERVENTIONS	ANTICIPATED EFFECTS ON FLOODS AND DROUGHTS	OTHER ANTICIPATED BENEFITS	POSSIBLE COSTS
UPSTREAM	EbA: Restoration of natural forests, grasslands, peatlands, wetlands	• Reduces peak flow • Reduces risk of flash flooding and landslides • Increases infiltration capacity	• Increases natural value if native ecosystems are restored • Increases recreation potential • Strongly reduces erosion and improves soil composition	Loss of land for agriculture
	EbA: Enhance and reinforce embankments	• Protects banks from flooding and erosion.	• Reduces sediment in the river • Enhance local biodiversity	
	GI: Establish Retention areas	• Reduces peak flow • Increases retention capacity • Increases infiltration capacity	• Possible natural values • Possible recreational values • Water storage • Decrease urban heat effect	Only effective at certain locations in the river basin and effectiveness strongly depends on the duration of discharge peaks and retention capacity
	GI: Establish gabion bunds	• Limits flooding Downstream • Decreases flow velocity • Temporary water storage •	• Increases infiltration	The local area may have increased inundation
MIDSTREAM	EbA: Flow path[49] restoration	• Reduces peak flow • Increases infiltration capacity • Allows for water transport	• Decreases bed degradation • Improved water quality • Natural Value • Aesthetics	Loss of land
	GI: Dispersal Embankments	• Reduces peak flow • Increases infiltration capacity	• Decreases bed degradation • Natural Value • Aesthetics	Loss of land
	EbA: Floodplain restoration	• Reduces peak flow • Increases retention space • Increases infiltration capacity	• Natural Value • Aesthetics • Decrease bed degradation	

[47] This table appears as Table 10-3 of Annex 2.

[48] *Kok, Sien, et al. "The potential of nature-based flood defences to leverage public investment in coastal adaptation: Cases from the Netherlands, Indonesia and Georgia." Ecological Economics 179 (2021): 106828.*

[49] A flow path means the route that stormwater runoff flows between two points.

	EbA: De-silt wetlands	• Enhances wetland function • Reduces flood peaks	• Biodiversity hotspots	
	GI: flood protection embankments	• Limits flooding Downstream • Decreases flow velocity • Temporary water storage	• Constant fairway	The local area may have increased inundation
	GI: Establish gabion bunds	• Limits flooding Downstream • Decreases flow velocity • Temporary water storage •	• Increases infiltration	The local area may have increased inundation
	EbA: Enhance and reinforce embankments	• Protects banks from flooding and erosion.	• Reduces sediment in the river • Enhance local biodiversity	
	GI: Establish Retention areas	• Reduces peak flow • Increases retention capacity • Increases infiltration capacity	• Possible natural values • Possible recreational values • Water storage • Decrease urban heat effect	Only effective at certain locations in the river basin and effectiveness strongly depends on the duration of discharge peaks and retention capacity
	GI: Establish Recharge basins	• Reduces peak flow • Increases retention capacity • Increases infiltration capacity	• Possible natural values • Long term Water storage	
DOWNSTREAM	Sustainable land use management and improve agricultural practices	• Reduces risk of flash flooding and landslides	• Strongly reduces erosion	Alternative crops and cropping methods need to be adopted, reducing the capacity for certain popular crops
	EbA: Wetland restoration (connected to the river)	• Reduces peak flow • Increases retention area • Increases infiltration capacity	• Increases recreational value • Increases natural value • Improves water quality	Effects on flooding strongly depend on the location of the wetland in the basin and the flow path

EbA Template

A set of EbA archetypes were developed and applied and tailored to each selected site. The figure below sets out the process of selecting the sites and the EbA intervention archetypes.

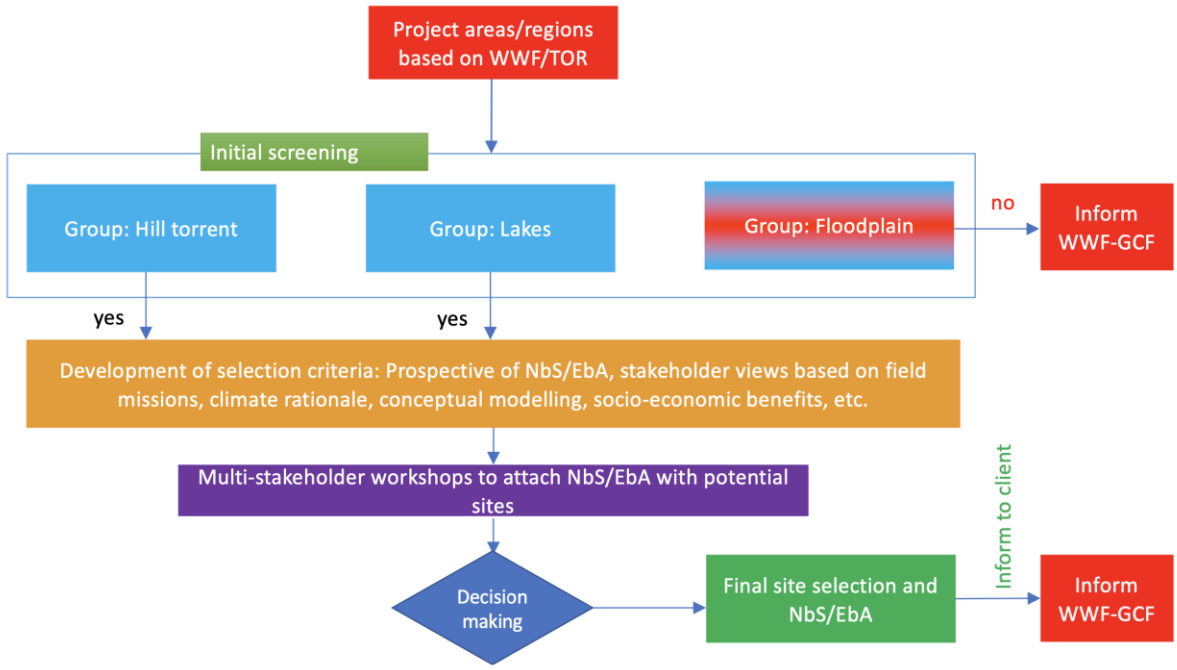
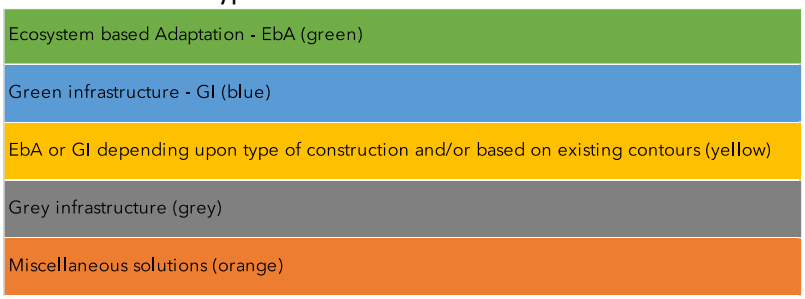


Figure 1: Decision Support System for the selection of sites and EbA-solutions.[50]

The EbA archetypes are set out below. Colours represent the type of solutions. Miscellaneous solutions do not have a clear climate-resilience objective but can be combined with the other templates to solve problems related to water quality and flow obstruction. Per archetype, references are provided with the background of the type of intervention and lessons learned in other projects. However, it is important to note that many projects encompass a range of interventions, and it is not always possible to extract the net result of one type of intervention.



Legend for EbA -archetypes.

[50] This figure appears as Figure 13.25 in Annex 2.

EbA Template Type A: Re-vegetation or afforestation				
Climate resilience Objective:	Peak flow reduction, increased retention, increased infiltration, reduced risk of flash flooding and landslides			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
	Vegetation should be native and drought resistant	Soil needs to be fertile	sufficient water (rain, discharge) for vegetation growth at planting locations	Relatively flat, low-lying areas
key socio-economic components	Economic	Social	Community	Engagement
	Self-sustaining when conditions are favorable	Recreation, when combined with fruit trees additional food	Artisanal function, firewood	Natural harvesting needs to be in balance with the system
Key enabling factors	The area should be accessible			
Key barriers	Loss of agricultural land potentially increased flood extent			
Co-Benefits	Improved soil composition, reduced erosion, increased natural value			
Timescales	Depending on the vegetation type and discharge dynamics several years before it is effective and self-sustaining when abiotic conditions are met			
References	• http://nwrm.eu/sites/default/files/nwrm_ressources/f2_-_maintenance_of_forest_cover_in_headwater_areas_0.pdf • A website with several case studies on river restoration: https://restorerivers.eu/ • http://nwrm.eu/ provides many references to case studies where a range of EbA are implemented • Burek et al., 2012; Eddleston-Water-Project: https://tweedforum.org/download/241/all/6505/building-with-nature-hydrological-impacts-arising-from-the-eddleston-catchment-natural-flood-management-nfm-measures-empirical-analysis.pdf • Orbigo River Ecological status improvement: Strosser et a., 2014 • Collection of case studies including re-vegetation (Coalburn, Pontbrem, Cary, Great Triley, SussexFlow): • https://www.gov.uk/flood-and-coastal-erosion-risk-management-research-reports/working-with-natural-processes-to-reduce-flood-risk • Golfieri et al., 2017			

EbA/green infrastructure Type A*: Green water retention areas*				
Climate resilience Objective:	Peak flow reduction, increased retention, increased infiltration.			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
	Native vegetation types	Permeable soil	The discharge duration should be large enough to fill the retention area	Needs to be constructed in the valley near the river
	Economic	Social	Community	Engagement

key socio-economic components	Water storage for irrigation, fishing and other food, biomass generation	Recreation	Artisanal function, firewood, drinking water	Natural harvesting needs to be in balance with the system
Key enabling factors	The landscape should allow construction, channel morphology should be stable near the inflow point			
Key barriers	Requires maintenance, reduces water availability downstream			
Co-Benefits	Increased natural value			
Timescales	Works for water retention and flood reduction right after construction, natural functions need several years to develop			
References	• Factsheet on Basins and ponds: http://nwrm.eu/sites/default/files/nwrm_ressources/n1_-_basins_and_ponds_0.pdf* • The website with several case studies on river restoration: https://restorerivers.eu/ • http://nwrm.eu/sites/default/files/nwrm_ressources/u12_-_infiltration_basins.pdf • http://nwrm.eu/ provides many references to case studies where a range of EbA are implemented • Burek et al., 2012 • Range of English case studies including wetland restoration: https://assets.publishing.service.gov.uk/media/6036ab62e90e0740b06b68b1/Case_Studies_1_to_23_Rivers_and_Floodplains.zip			

EbA Template Type B: Wetland and lake restoration				
Climate resilience Objective:	Increased retention, increased infiltration, reduce flood risk			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
	Abiotic conditions should be suitable for aquatic and riparian species	Soil should be permeable	Needs to be connected to freshwater inflow and needs an outflow point	Needs to be constructed in the valley
key socio-economic components	Economic	Social	Community	Engagement
	Water storage for irrigation, self-sustaining if conditions are favorable, fishing and other food, biomass generation	Drinking water	Artisanal function, firewood, recreation,	Natural harvesting needs to be in balance with the system
Key enabling factors	Depends on the extent, location and, when revegetating, the type of vegetation			
Key barriers	Large spatial requirement			

Co-Benefits	Improved water quality, decreased salinity, natural value			
Timescales	Needs several years to start functioning, and requires suitable abiotic conditions to be self-sustaining			
References	• Burek et al., 2012 • http://nwrm.eu/sites/default/files/nwrm_ressources/n2_-_wetland_restoration_and_management.pdf • nwrm.eu provides many references to case studies where a range of EbA are implemented. • http://nwrm.eu/sites/default/files/nwrm_ressources/n12_-_lake_restoration_0.pdf • De Lange et al., 2012 • Golfieri et al., 2017 • Monier et al., 2003			
EbA Template Type C: Climate-smart agriculture				
Climate resilience Objective:	Increased infiltration, reduced risk of flooding and landslides			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
	Crops should be compatible with the local weather, topography, and geology.	Soil needs to be fertile, sandy loam, loam	Sufficient water (rain, groundwater, surface water) for crop growth at farm locations	Relatively flat, mild slope or limited drainage
key socio-economic components	Economic	Social	Community	Engagement
	Initially higher investment in soil cover and mulch	Food and fibre requirements, economic returns	The potential shift in farming culture and types of crops	Farmers need to change cropping practices
Key enabling factors	Depends on the willingness of the community and farmers and the geology and hydrology. Also depends on tools and technologies			
Key barriers	Farmers need to be willing to change cropping practices and use water- and agriculture- efficient practices			
Co-Benefits	Decreased evaporation, increased yield, reduced erosion, reduced surface water runoff, increased soil quality, and pollution reduction leading to restore the natural ecosystem			
Timescales	Several years for implementing new cropping procedures and reaping benefits of improved soil conditions and hydrology			
References	General information • WWAP/UN-Water, 2018 • Burek et al., 2012 • No-tilling agricultural practice: http://nwrm.eu/sites/default/files/nwrm_ressources/a6_-_no_till_agriculture.pdf • Green cover: http://nwrm.eu/sites/default/files/nwrm_ressources/a8_-_green_cover_0.pdf • Crop rotation:			

	http://nwrm.eu/sites/default/files/nwrm_ressources/a3_-_crop_rotation_0.pdf • Mulching http://nwrm.eu/sites/default/files/nwrm_ressources/a13_-_mulching_0.pdf • Buffer strips: http://nwrm.eu/sites/default/files/nwrm_ressources/a2_-_buffer_strips_and_hedges.pdf

Green infrastructure Type A: Landscaping measures (e.g., terracing)				
Climate resilience Objective:	Increased infiltration, reduced velocity of flow			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
		Soil needs to be fertile or should be easily made fertile	Sufficient rainwater availability or on-farm storage options for the dry season	Accessible for the preparation of terracing, i.e., accessible with road network for machinery, equipment, etc
key socio-economic components	Economic	Social	Community	Engagement
	Higher yield	Food needs, economic return	The potential shift in earning mode, from livestock/labour to farming, etc	Proper design and maintenance are required
Key enabling factors	Willingness to construct and maintain terraces			
Key barriers	When applied in large areas it could negatively affect downstream water balance, when badly maintained it can collapse and cause landslides			
Co-Benefits	Increased yield, reduced erosion			
Timescales	Several years			
References	General information • http://nwrm.eu/sites/default/files/nwrm_ressources/a10_-_traditional_terracing_0.pdf • Deng et al., 2020			

Green Infrastructure Type B: Dams (check-dams and sand dams)				
Climate resilience Objective:	Increased infiltration, increased retention			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
		Permeable soil, but dam site at some impermeable soil	Discharge duration should be large enough to fill the reservoir, storage/drainage area sufficient to hold significant water for local communities	Needs to be constructed in the valley near to river or stream and close to the community, could generate sufficient water for storage

key socio-economic components	Economic	Social	Community	Engagement
	Water for irrigation, expensive	Recreation, on-demand water availability	Drinking water	Requires proper design and maintenance
Key enabling factors	Proper design and maintenance are required			
Key barriers	Not a self-sustaining Nature-based Solution, requires large construction works, risk of damage after a flood, and risk of increased flood extent due to backwater effects			
Co-Benefits	Reduced erosion, reduced surface water runoff, protection from floods, etc			
Timescales	Works right after construction			
References	Sand dams: Lasage et al., 2007 Check dams: Zia-Ul-Haq et al., 2017			

Grey infrastructure Type A: Water sanitation plant				
Objective:	Filter water flowing into lakes, rivers and wetlands			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
			Needs to be close to polluted water sources from agriculture or drains	Needs to be in a flat area
key socio-economic components	Economic	Social	Community	Engagement
	Possibilities for employment, water for irrigation, expensive		Drinking water	Requires proper design and maintenance
Key enabling factors	Proper design and maintenance are required			
Key barriers	Not a self-sustaining Nature-based Solution, requires construction, good operation and maintenance, risk of plant closure and return of bad water quality, needs space to be constructed			
Co-Benefits				
Timescales	Works right after construction			

Green infrastructure Type C*: Artificial islands*				
Objective:	Improve water quality and ecology in lakes and wetlands			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
	Abiotic conditions should be suitable for aquatic and riparian species		Should be constructed within a lake	
key socio-economic components	Economic	Social	Community	Engagement
	More fish and natural harvesting	Recreation	Artisanal function, firewood,	Natural harvesting needs to be in

	material can be constructed out of dredging material, costly		recreation, fishing, and other food, biomass generation	balance with the system
Key enabling factors	Needs to be well constructed to prevent erosion or leakage of dredged sediment			
Key barriers	The construction phase temporarily disturbs aquatic life and increases suspended sediment concentrations. It is a very extensive and costly method.			
Co-Benefits	Natural value, reduction of suspended sediment			
Timescales	Takes several years to develop and after that several years to function			
References	https://www.natuurmonumenten.nl/projecten/marker-wadden/english-version			

Miscellaneous solution Type A*: Flushing*				
Objective:	Improves water quality in lakes and wetlands			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
			There should be enough water available, there should be a steady inflow and outflow point	
key socio-economic components	Economic	Social	Community	Engagement
Key enabling factors	Flushing water quality should be of good quality			
Key barriers				
Co-Benefits				
Timescales	Depending on the quality of the water and sediment: several years to decades			

Miscellaneous solution Type B*: Dredging*				
Objective:	Improves water quality in lakes and wetlands			
Key Bio/physical components	Ecology	Geology	Hydrology	Topography
key socio-economic components	Economic	Social	Community	Engagement
	Possibilities for employment on dredge-boats	Temporal disruption for fisherman		

Key enabling factors	Locations with the largest soil pollution should be found, inflow water quality needs to be good (combine with water sanitation options like sanitation plants or wetlands) otherwise measure is not sustainable
Key barriers	The drastic, large and expensive operation, disturbance of aquatic life in the lake, and temporary increase of suspended sediment in the lake
Co-Benefits	Nutrients and chemicals are removed from the sediment, reducing release in the future, increasing the storage capacity of the lake, and decreasing flood risk, and archaeological finds, sediment can be used to construct purification islands.
Timescales	Depending on the quality of the water and sediment: several years to decades