

## Environmental and Social Management Plan (ESMP)

### **Restoration of Riverine, Inland, Mangroves, Dry-land and Urban Forests Ecosystems of Sindh Province (RRIMDU)**

**September, 2022**

**Project Implementation Unit (PIU) Sindh Forest Department**

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### **List of Abbreviations**

EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
ES	Environment Specialist
ESIA	Environmental and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment & Social Management Plan
FGD	Focused Group Discussion
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HSE	Health & Safety Environment
IEE	Initial Environmental Examination
NDMRF	National Disaster Risk Management Fund
NEQS	National Environmental Quality Standards
OP	Operational Policy
PC-1	Planning Commission proforma 1
PD	Project Director
PEPA	Pakistan Environmental Protection Act
PHCSP	Pakistan Hydromet Climate Services Project
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SEPA	Sindh Environmental Protection Agency
SFD	Sindh Forest Department
SIA	Social Impact Assessment
VLD	Voluntary Land Donation
WB	World Bank

## Executive Summary

### Project Introduction

The Government of Sindh intends to restore its forest cover that has been degraded due to extensive deforestation activities mainly due to poverty, urban sprawl and lack of fiscal space for strong policy initiatives in protecting forests. This project “*Restoration of Riverine, Inland, Mangroves, Dry-land and Urban Forests Ecosystems (RRIMDU)*” was conceived with the view to restore productivity of various Forest ecosystems like Riverine, Inland, Mangroves, Dry-land and Urban Forestry through securing funds from the NDRMF under the World Bank funded project Pakistan Hydromet and Climate Services Project’s component II (nature base solutions and climate adaptation). Project will be executed by Sindh Forest Department to achieve the planned target objectives.

Sindh province having a population of about 47.89 million, occupies land area of 14.091 million hectares (i.e., 34.81 million acres). Sindh has a massive potential for growing forests as total forest land under the control of Forest & Wildlife Department is 3.426 million acres, which is about 10% of Sindh’s total surface area. Sindh forests are comprised of productive forest (Riverine & Irrigated) and protective forest (Mangroves and Rangelands)<sup>1</sup>.

The ESMP is a required assessment tool that guides the environmental and social implementation of any development project providing procedures for environmental and social management. This plan will guide the RRIMDU Project Implementation Unit (PIU) in particular and the SFD in the targeted project areas. It will help these entities in determining the appropriate level of environmental and social management required for the project and it also outlines necessary environmental and social mitigation measures for the project and its proposed components during the development and operational phases of the project.

The RRIMDU has been categorized as “B” and this ESMP has been prepared accordingly to meet the World Bank guidelines.

### Project Objectives

The overall objectives of the project include conservation of existing forest cover and plantation on the barren, waste lands available with Sindh forest department. Project envisaged installation of solar energy units on wells to fulfill water needs of existing forest and proposed plantation areas. Following are the main objectives of the project

- Ecosystem base adaptation through integrated forest management
- Livelihood improvement through generating income sources/green jobs
- Forest conservation through awareness and community engagement

**Policy, Legal and Administrative Framework:** The Sindh Environmental Protection Act of 2014 is the primary legislative framework related to the proposed project intervention in the province. The IEE and EIA regulations developed under Pakistan Environmental Protection Act are intact in the revised SEPA and applicable on the project. The project is mainly focused on the green interventions to reduce the climate change impacts through various integrated afforestation and plantation intervention in various ecological zones of the province and hence will not have significant adverse impact which might not require to prepare and submit any IEE or EIA.

The World Bank funding has been secured for the project through NDRMF and the safeguards polices of both are applicable. The loan agreement was signed before the implementation of the World Bank new safeguards guidelines and therefore, the previous polices/operational polices are applicable. In accordance of the World Bank safeguards polices the project has

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been categorized as B and with requirement of Environment and Social Management Plan (ESMP). Further detail of the policies and legal requirement is given in the legal chapter of the report.

**Project Description:** The core focus of the proposed project is on afforestation and reforestation on state-owned forests by intensive community involvement. Project is comprised of various components with widespread interventions across the province of Sindh and include restoration of riverine, inland, mangroves, urban ecosystems, enhancement of rangeland productivity and capacity building. Sites are identified for the proposed interventions (list annexed) based on the need and causes of the degradation. No major civil works are proposed, however limited physical interventions will be carried out while preparation of sites for the plantation, renovation of existing forest rest house at Kundah forest site and construction of chamber rooms for solarized tube well at rangeland sites.

**Environmental Baseline:** Proposed project interventions are widespread in all of 29 districts and covers more than 70% of the Sindh province. In order to address the environmental baseline in this ESMP, the whole province will be considered segregated into the targeted ecological zones.

**Geography:** Geographically, Sindh province is bordered with Balochistan on the west and north, Punjab on the northeast, the Indian states of Rajasthan and Gujrat to the east and the Arabian Sea to the south. Geology of the proposed ecological zones is described in the environmental baseline chapter.

**Topography:** Sindh can be divided into four distinct parts with the dry and barren Kirthar Range in the west, a central alluvial plain bisected by the river Indus, a desert belt in the east and the Indus delta in the south. Further detail on the topography are elaborated in the baseline chapter of this report. Topographical features of the proposed ecological zones is described in the environmental baseline chapter.

**Climate:** Sindh has a subtropical climate and experiences hot summers and cold winters. Temperatures frequently rise above 115° F (46° C) between May and August, and the average low temperature of 36° F (2° C) occurs in December and January. Annual precipitation averages about 7 inches (180 mm), falling mainly during July and August. Complete details on meteorological parameters are provided in the relevant section of the document.

**Forests:** The province of Sindh has a population of more than 55 million residents, over a landmass of over 34 million acres. Out of this, a mere 8% of the total area is under the management of the Forest & Wildlife Department of Sindh, which is a provincially governed authority that oversees the development and maintenance of forests in the province

Sindh is rich in diversity when it comes to forestry resources, with four types of forests spread across the province. These four types of forests are:

- Riverine Forests
- Rangelands
- Mangroves
- Irrigated Plantation

**Water Quality:** As per the secondary sources data, quality of drinking water in Sindh province is unfit like other provinces of Pakistan. Large portion of water available is contaminated with pathogens, chemicals and toxic materials. The proposed project interventions will not have any adverse impacts on the local water quality.

**Socioeconomic Profile:** Dependency of Sindh province on Forestry has a long history. Forests are used for supply firewood to railway, ships, fuel wood for cantonments steam boats and steam boats and domestic use. Socio economic base line for the project is established on the

basis of published secondary data and the primary information collected by the forest department and NDRMF Social and Environmental Consultants.

**Demographic Profile of Sindh Province:** According to 2017 population census, The Sindh province contains 23.04% of Pakistan's total population i.e. is 22 million. Population density is 250 persons per square km in rural areas in the province and urban centers are with an average of 1000 person per square kilometer. Total number of population is 47.9 million. Out of which 47.98% live in rural Sindh. The sex ratio in rural areas is 107% and average house hold size is 5.7%. Most of the population falls in the category of below 15 years. 22.27 % population falls in 15 years to 25 years' age group.

**Literacy and Education:** Since the project interventions are across the Sindh province, Overall, the quality of education in rural areas of the province is deplorable as literacy rate of rural areas is about 35.5%. Apart from that, only 3.65% rural population is literate beyond higher education.

**Health & Nutrition:** The Sindh province has the poor health care system particularly in the rural settings. The project areas for mangroves are among the recipient of low health care facilities. The community has to travel minimally 25 km to get a proper health care.

**Civic Amenities:** Basic civic facilities are available in forest surrounding villages and hamlets although these facilities are compromised. Electricity and road network is available. Primary and secondary schools for boys and girls are also available. Students has to approach to the nearest cities for higher studies. Medical facilities are scarce and least available.

The findings of published data for quality of drinking water about the rural areas of the province, indicate that water in the project area is of not good quality and is not fit for the drinking.

**Occupation:** The Economic survey of Pakistan narrated that agriculture is the main source of employment in Sindh. 42% of the population works in the agriculture fisheries and forestry sectors, followed by 35% in services (including government) and 22% in industry and associated jobs.

**Forestry and Livelihood:** Major chunk of village population's livelihood is dependent on forest as a secondary profession. Village population collect dead woods, honey, medicine plants and bi products from the Forests. Mangroves are washed away from the region as 38% area of the delta has been reduced due to shortage of freshwater below the Kotri barrage. Brackish water of the Arabian Sea is increasing due to the intrusion of seawater and the production of fish, crops, fruit, and mangrove forests are decreasing.

**Dependency on Natural Resources:** People of the Sindh especially the rural communities are dependent on the natural resource and forests are the one of the major natural resource. Rural Population is dependent on forest for following activities livestock, fisheries and fuel wood.

**Land Use and Community Involvement:** Sindh forests Department has control of 3.426 million acres' land, which is about 10% of Sindh's total surface area. An area of 3000 acres (1214 hectares) shall be tackled in Inland forest for planting. 2,250 acres (910 hectares) land will be utilized for fruit orchard and over 750 acres (304 hectares) shall be established to maintain biodiversity of the area, by planting minimum two years old different fruit saplings.

The department is very firm and strict that all the project activities will be carried out on SFD department land or state land. SFD will never go for land acquisition or resettlement. In case if informal settlers or encroachers are living on the proposed land. The department will not remove these settlers from the land instead will select an alternative site for the activities.

Although there is very limited chance that private land or community land will be utilized for the project activities, still the provision has been made in ESMF that if it will be necessary to utilize the private land it will be use through Voluntary Land Donation (VLD). For the purpose VLD mechanism has been devised and available to the SFD incase.

**Voluntary Land donation:** In case the private land use is inevitable VLD mechanism with all its social safeguard protocols will be complied. An agreement will be carried out with every individual owner in case of private land and with the tribal heads committee in case of communal or tribal land. An agreement for VLD on Judicial Stamp paper of nominal minimal legal value will be obtained from every land owner. The voluntary land donation issues will be monitored by NDRMF Social safeguards team.

**Community Involvement through TOP:** The Project will engage the surrounding communities in the project to ensure the sustainability. The sustainability will be ensured through a Term of Partnership Agreement. In the agreement role and responsibility of the department and the community will clearly jord-down.

**Livelihood Management Plans:** In terms of livelihoods, the project is expected to generate direct and indirect opportunities of employment for the rural communities. Male and female members of the community will be engaged in project activities like for seedling and sampling provisions and recruitment as Negahban/ coastal Negahban.

**Training & Capacity Building:** The project is community engagement focused and there is no formal community training program. Two types of training program will carry out during implementation stage. First training program will be for forest department crew. These training will improve the service delivery of the department and department will better serve the society and the communities.

**Training for Communities:** On the other hand, the department will provide skilled and un skilled jobs to the surrounding communities. After engaging these communities in the project, the project will provide training to these people. These training will be of two types i.e. workshops and on job trainings.

**Community Mobilization Mechanism:** The awareness about the project objectives to the surrounding communities will be given by the Project. The general objective of the Community Mobilization process is to mobilize the community and the households of the vicinity who will be the ultimate beneficiaries as a result of successful execution of the proposed interventions under the project.

**Stakeholders Consultations & Methodology:** Public consultation and stakeholders' consultation is mandatory for every stage of the project i.e. pre project stage, during project at start of every new site or new activity and it will remain in progress till the end of the project. On the other hand, awareness workshops will be carried out at district level and Taluka level. There are different potential stakeholders like agriculture department, environment protection department, revenue department district administration, NGOs and concerned TMAs. The meetings will be carried out with these departments and these departments will also be invited in opening workshops.

**Awareness Campaign:** Outreach and conservation awareness could target and engage rural populations living in and around forest areas to build positive attitudes and behaviors to reduce threats to biodiversity. Awareness initiatives use a variety of media directed at community leaders, forest resource users, students and government partners.

**Grievance Redress Mechanism (GRM):** A grievance redress mechanism will be available to allow people appealing any disagreeable decision, practice or activity arising due to implementation of the project. People will be fully informed of their rights and of the procedures for addressing complaints verbally or in writing during consultation, survey, and time of

execution. Anticipated grievances may relate to environmental issues, community engagement, Livelihood opportunities, trespassing, Labor issues, issues of the female and marginal communities, payment coercion and for land donation or donation of more than 10% of one's agricultural land holding.

**Land and Land use:** The project shall be executed on the state forest lands under the administrative control of Sindh Forest Department. Hence, no land acquisition, resettlement and/or displacement of people will be resulted.

**Availability and Use of Forest Land:** Sindh has a massive potential for growing forests as total forest land under the control of Forest & Wildlife Department is 3.426 million acres, which is about 10% of Sindh's total surface area. The project envisages reforesting 34,500 acres of blank potential area in riverine (30,000 acres) & inland forests (4,500 acres) in all over Sindh province, for linear plantation, mangroves forestation and social forestation.

**Screening of Land Acquisition and Resettlement:** The status of land ownership will be screened out at initial stage of the project. It is fundamental principal that no private land will be acquired and no community will be resettling. In case of informal settler or encroaches on state land, the piece of land will be excluded from the project area and an alternative land will be selected.

**Impact Assessment and Mitigation:** Environmental impacts have been and will continue to be considered, eliminated or reduced throughout the lifecycle of the project. Potential impacts are minor and may arise from the execution of the project activities resulting in soil contamination, soil erosion, water contamination; fugitive dust emissions, vehicular exhaust emissions, noise nuisance due to the use of machinery at working sites and some minor social impacts. Moreover, there is no any threatened species found in the proposed project areas of interventions that could be adversely impacted and the impacts on the local flora and fauna are anticipated to non-significant and will rather beneficial. To avoid and minimize these minor site specific impacts, mitigation measures are identified and listed in the later chapter for execution phase on all working sites.

**Institutional Arrangement:** The Project Director (PD) will have an overall responsibility for the implementation of the environment and social development plans of the subprojects areas through the social and environment specialists. Safeguards specialist will be responsible for compliance of ESMP through subproject developing site specific screening checklists and their effective implementation, internal monitoring and progress reporting.

The safeguards specialist will also be supported by district forest officers ESMPs compliance on all working sites. Additionally, the environment and social safeguard specialists will have close coordination with EPA and other line departments to address their concerns regarding subproject interventions.

**Compliance Monitoring & Reporting:** Safeguards' (Environment, Social & Gender) performance of each sub-project is evaluated on a semi-annual basis. NDRMF & RRIMDU will ensure that all the partners prepare and submit the mandatory monitoring reports on regular basis. The M&E system developed within the NDRMF & RRIMDU also includes information on the safeguards compliance status and activities. In addition, the Fund will engage a third party (firm) on annual basis for independent detailed assessment study on safeguards compliance.

**ESMP Cost:** Budgetary provisions were ensured in the PC-1 in the project design phase for safeguards instruments development, compliance and safeguards staff. Project will avail the services of dedicated safeguards specialist through the allocated cost and this ESMP provides

the breakup for the compliance requirements including the capacity building session, instrumental monitoring and PPE.

## 1. Introduction

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### 1.1. Background

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Forests are ranked high as national assets of significant economic, environmental, social and cultural values. They are the foundation for the success of key productive sectors such as agriculture, tourism, water, energy, infrastructure, wildlife, industry and livestock. Indeed, forests play a key role in protection of water catchments that provide water for domestic use, agriculture, industry and to generate hydro-electricity.

Sindh province having a population of about 47.89 million, occupies land area of 14.091 million hectares (i.e.34.81 million acres). Sindh has a massive potential for growing forests as total forest land under the control of Forest & Wildlife Department is 3.426 million acres, which is about 10% of Sindh's total surface area. Sindh forests are comprised of productive forest (Riverine & Irrigated) and protective forest (Mangroves and Rangelands)<sup>2</sup>.

Forest cover is under threat in Sindh province and the major causes are increase in demand of forest and agricultural products through converting lands from forest to agricultural fields. Lack of alternative fuel options is the second major causes for forest reduction which is done illegally in remote areas in particular. Lack of education and awareness among the local communities regarding the importance of forest, and its sustainable use through plantation and afforestation is another cause of forest degradation. Similarly, the meager financial resources availability, to execute, projects for afforestation through integrating role of community participation. Impacts of climate change exacerbate the depletion of forest cover in the province with low participation in the dry zones.

This project has been conceived with the view to restore productivity of various Forest ecosystems like Riverine, Inland, Mangroves, Dry-land and Urban Forestry through securing funds from the National Disaster Risk Management Fund (NDRMF) under the World Bank funded project Pakistan Hydromet and Climate Services Project's component II (nature base solutions and climate adaptation). Project will be executed by Sindh Forest Department (SFD) to achieve the planned targets and objectives.

Riverine Forests are the mainstay of forestry in Sindh. They act as carbon sink, moderate climate, check soil erosion and also protect soils and settlements from the ferocity of flood waters. Reforestation over 34,500 acres (13,962 hectares) of blank potential areas of riverine forests (30,000 acres or 12141 hectares) & inland forests (4,500 acres or 1821 hectares) in all over Sindh province shall be carried out.

An area of 3000 acres (1214 hectares) shall be tackled in Inland Forest for planting/sowing on 2,250 acres (910 hectares) whereas fruit orchard over 750 acres (304 hectares), being 25% of the 3,000 acres (1214 hectares), shall be established to maintain biodiversity of the area, by planting minimum two years old different fruit saplings. This will ensure the sustainability of the irrigated plantation and enhance local people livelihood. Besides, 1500 acres (607 hectares) shall be brought under oil palm/coconut plantation.

In Indus Delta Mangroves, afforestation on blank and de-vegetated mangrove areas shall be carried out over 55,000 acres (22258 hectares). Where as in rangelands ecosystem grazing grounds shall be established over 900 acres (364 hectares). In addition, 900 acres

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(364 hectares) shall be afforested with local fodder tree species. The blocks shall be fenced, watered through water storages and solar operated well boring where sub-soil water is available. Moreover, scrub/olive plantations shall also be established and maintained over 200 acres (81 hectares) as trial plantations to create seed sources and for scaling up at later stage.

Under Urban Forest Ecosystem 900 avenue km plantations (400 km along roads and 500 km. along canals) shall be established. Besides, planting of 500,000 Nos. plants in all over Sindh shall be carried out in the offices, schools and other suitable places to create green patches for the amelioration of environment.

## **1.2. Objectives of the Project**

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Objectives of the project are to retrieve, reforest, restore the inland forests being renewable natural resource so as to meet the ecosystem services needs of Sindh's current generation and sustainably reserve for future generation. Following are the project specific objectives:

- Increase the income and livelihood sources for local people from the sale of minor forest products and trading of ecosystem services and provide gainful employment opportunities to the local people dependent on forest ecosystems.
- Improve the quality of local human environment.
- Enhance forest land productivity to supplement growth of multipurpose tree species.
- Climate change resilience and contributing to flood security through sustainability and feeding grounds of livestock of Sindh.
- Promote environmental stability, preserve biodiversity and natural heritage.
- Raising awareness through training, workshops, seminars and field visits among people of forest resource.
- Celebrating 2021 as year of restoration / revival of forests of Sindh by organizing planting campaigns/ events and re-growing of maximum forests on forest land.
- Rehabilitation of degraded Rangelands for improved productivity.
- Restore forests productivity for carbon sequestration and ecosystem improvement.
- To strengthen participatory forestry and Range management for overall good of the society.
- To Strengthen Social Forestry Activities in the targeted areas.
- To ensure availability & supply of planting stock to farmers and progressive tree growers on subsidized rates
- To enhance tree cover for carbon sequestration and ecosystem improvement.
- To strengthen participatory forestry through development of green patches in urban areas of cities and for overall enrichment of aesthetic environment of the society

## **1.3. Environmental and Social Management Plan (ESMP)**

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The ESMP is a required assessment tool that guides the environmental and social implementation of any development project providing procedures for environmental and social management. This plan will guide the RRIMDU Project Implementation Unit (PIU) in particular and the SFD in the targeted project areas. It will help these entities in determining the appropriate level of environmental and social management required for the project and it also outlines necessary environmental and social mitigation measures for the project and its proposed components during the development and operational phases of the project.

### **1.3.1 Objectives of ESMP**

This ESMP has been prepared to:

- Integrate the environmental and social concerns into the identification, design, and implementation of the related schemes in order to ensure that they are environmentally and socially sustainable
- Ensure all relevant environmental and social issues are mainstreamed into the design and implementation of the schemes
- Consider in an integrated manner, the environmental and social risks, benefits and impacts of the schemes and identify measures to avoid, minimize and manage risks and impacts while enhancing benefits
- To specify appropriate roles and responsibilities of all implementing agencies/entities and define the necessary monitoring and reporting procedures for managing environmental and social concerns related to schemes
- To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMP
- To comply with the local regulatory and WB policy requirements

### **1.3.2 Study Methodology**

This ESMP has been prepared by adopting the following methodology:

#### **1.3.2.1 Screening Criteria & Categorization**

The environmental and social screening checklist provided in the ESMF was used to perform screening and assess the category of the project at the initial stage. The checklist was filled by the environmental and social experts of NDRMF and SFD during the field visits. Based on the screening results, the project falls in Category B: major project activities are related to plantation only. However, some minor civil works will be involved in the renovation of existing building at Kundah forest and construction of room chambers for the tube wells in rangeland forest ecosystem. The project impacts are likely to be low to moderate level and will mostly be reversible, considering the requirements and mitigation measures stipulated in the ESMP.

Proposed sub-schemes will be screened and categorized through customized checklist (**Annexed 9**) during execution phase prior to commencement of work on the ground. The screening process will involve the community and line department consultation. This will provide clearer picture of the anticipated impacts and compliance related institutional management matters.

Given below is the criteria as per the ESMF upon which the categorization of the project is based:



**Table 1.1: Subprojects Screening and Categorization Criteria as per ESMF**

<b>Subproject Category</b>	<b>Subproject Type</b>
Category A Subprojects - EIA required	Subprojects requiring new construction OR requiring land acquisition, OR structure height more than 10 m or above OR requiring an EIA according to PEPA regulations and SIA and preparation of RAP as per OP 4.12 of WB OR having significant irreversible and widespread impacts OR involving significant degradation of forest or sensitive natural habitat.
Category B Subprojects - ESMP required	Subprojects involving rehabilitation of existing structures; potentially causing low to moderate level of negative but reversible and localized impacts.
Category C Subprojects - Smaller sub-projects, only environmental screening required (with the help of environmental and social checklists)	All other subprojects

### **1.3.2.2 Literature Review**

Published relevant reports and data of different development projects in the Sindh province were reviewed and environmental and social information was collected. The national and provincial legal requirements and the World Bank operational policies were reviewed and their applicability to this project was determined.

### **1.3.2.3 Stakeholders Consultations**

Projects stakeholders were identified and consultations sessions were conducted with the relevant government department and communities. Sample based approach has been adopted. The objectives of these consultations were to inform the stakeholders about the protect design and environmental and social impacts during the project implementation. Concerns were recorded and addressed in this ESMP for compliance during execution phase. Stakeholder consultations remain a continuous process under the project, and will be further carried out as per the guidelines given in chapter 6 of this ESMP.

### **1.3.2.4 Impact Assessment and Mitigation Measures**

Assessment of environmental and social impacts was carried out keeping in view the project location and intervention. Mitigation measures were proposed for the identified adverse environmental and social impacts of the project.

## **1.4. Structure of the report**

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The ESMP consists of nine (09) chapters. **Chapter 1** is the introduction which describes background information of the project, objective and methodology of the ESMP. **Chapter 2** provides a detailed description of the project and its sub components, **Chapter 3** provides a review of national and provincial regulatory frameworks, World Bank Safeguards policies and international conventions and agreements; **Chapter 4** describes baseline on environmental and social settings of the project area; **Chapter 5** land use and community involvement **Chapter 6** presents the results and feedback of stakeholder consultations **Chapter 7** describes the potential environmental and social impacts and mitigation measures during the implementation of the project. **Chapter 8** describes the

environmental and social management plan, institutional arrangements for implementation, management, supervision, monitoring and reporting arrangements. **Chapter 9** describe the Grievance Redress Mechanism (GRM) for the project.

## 2. Description of the Project

### 2.1. Overview

The detail of main project activities and sub activities along with the information of districts of Sindh Province where these activities will be carried out is explained in this chapter.

### 2.2. Project Activities

Table 2.1. Breakdown of Projects Activities

Sr. No	Proposed Interventions	Activities	Brief Description of Activities	Target Districts
A. Restoration of Riverine and Inland Ecosystem				
1	<b>Restoration of 30,000 acres of riverine forest area through participatory planning and management.</b>	Conduct pre-abkalani, mid-abkalani and post-abkalani operations in potential inundation riverine areas for regeneration over 15,000 acres	<p>During abkalani (flood season), river water spreads and inundates the surrounding land, including forests except high lying areas, which fall outside the reach of flood.</p> <p>During mid abkalani, when floodwater starts receding, broadcasting of seeds of indigenous species, <i>Acacia nilotica</i> (Babul) and <i>Prosopis cineraria</i> (Kandi) will be done manually.</p> <p>In post-abkalani operation, when the floodwater has completely receded, the gap filling will be done through drilling / dibbling of Babul seeds in failure patches.</p> <p>Under this component, the potential low-lying blank/vacated areas of riverine forests receiving regular river inundation will be restored through broadcasting of seeds.</p>	Dadu Jamshoro Matiari Larkana Kashmore Kandhkot Thatta T.M.Khan Sujawal Shaheed Benazirabad Naushahro Feroze Sukkur Khairpur
		Ploughing/cross ploughing to break the upper trampled crust layer over an area of 15,000 acres	<p>Collection of 1,875 maunds of seed of indigenous species for regeneration and reforestation purposes, collection of seed is done through labour Jamadar for the abkalani operations.</p> <p>Potential sites of blank high lying areas shall be loosened for planting by breaking the trampled crust layer through ploughing and cross ploughing operation on available barren lands. Ploughing method like conventional tillage, reduced tillage and conservation tillage will be selected based on the soil conditions of that specific area. Besides,</p>	Dadu Jamshoro Matiari Larkana Kashmore Kandhkot Thatta TM Khan Shaheed Benazirabad Naushahro Feroze Sukkur Khairpur

			provision for installation of solar tube-wells/lift pumps has been kept in the PC-I for irrigating the high lying areas while using underground water through tube wells or fetching water from nearby ponds/depressions/Dhoras through lift pumps. The water from the tube well and nearby ponds through existing water channels will be used for watering the reforested plants.	
2	<b>Restoration of 3000 acres of Inland Forest area through participation planning and management</b>	Undertake land and layout preparation for reforestation over blank potential areas including planting/sowing on 2,250 acres and subsequent maintenance of the planted sites	<p>This activity will be carried out as per following standard irrigation layout system for each forest block/compartiment with an area of 40 acres (16 ha.), as below:</p> <p>Compartment passage of 1300 feet long and 20 feet wide will be cleared and raised on all the 4 sides of 40-acres compartment.</p> <p>A main (Water channel) will be dug along one of the 4 sides of the compartment and connected to lift engine or tube well for irrigating 40-acres compartment.</p> <p>Five Khals (small water channels) of the size 4 ft+6ft x 2ft &amp; 1200ft' long will be dug at equal distance in the compartment for irrigating the plots on their either side.</p> <p>Four raised earthen passages 10ft wide and 1300ft long will be constructed in between khals for machinery movement, extraction of agriculture/forest produce and inspection of the plantation.</p> <p>100 plots each measuring 120ftX124ft will be developed in between khals and passages for sowing/planting.</p> <p>Fine leveling will be carried out in all the 100 plots before trial irrigation.</p> <p>All earth work of irrigation system will be of 1.5 feet height.</p>	Dadu Jamshoro Larkana Shikarpur Kashmore Kandhkot Thatta T.M.Khan Sujawal Badin Sanghar Khipro Naushahro Feroze Khairpur Mirpur Mathelo
		Raising of fruit orchard over 750 acres being 25% of the 3,000 acres blank potential areas including planting of	Under this component, fruit orchard shall be established in irrigated plantations to maintain biodiversity of the area, by planting minimum two years old different fruit saplings. This will ensure the sustainability of the	Dadu Jamshoro Larkana Shikarpur Kashmore Kandhkot

		fruit saplings and subsequent maintenance of the planted sites	irrigated plantation and enhance local people livelihood. The technical features will be same as for Activity 2.1 above. However, instead of seed, fruit saplings will be procured and planted	Thatta T.M.Khan Sujawal Badin Sanghar Khipro Naushahro Feroze Khairpur Mirpur Mathelo
3.	<b>Coconut / Palm Oil plantation established over 1,500 acres</b>	Undertake land and layout preparation for raising Coconut/ Palm Oil plantation over 1,500 acres' blank potential areas and subsequent maintenance of the planted sites	<p>This activity shall be carried out in the coastal belt of Thatta, Sujawal &amp; Badin districts from the existing canal irrigation system which will be laid over each block/unit of 40.0 acres for area earmarked for raising of coconut palm plantation.</p> <p>Besides, fast growing species will be raised as nurse crop in the available interspaces keeping 10 feet strip available for Coconut / Palm Oil plants.</p> <p>Coconut/Palm plants will be grown on available barren forest land as a model to attract community as viable livelihood option. The forest department will auction these plants upon maturity and the revenue generated from it will be utilized for future afforestation interventions.</p> <p>The plants of 1-2 years' age will be purchased from open market and mixed strips of coconut/palm will be planted. The purchased plants will be at stage which will not require extensive use of fertilizers and only maintenance and protection will be carried out.</p>	Thatta Sujawal Badin TM khan
		Community Protection Payments (Community Watchers/ Negehban	The planted area will be protected through ten (10) Community Watchers/ Negehban. One Negahban may protect 20 acres of plantation keeping in view the dynamics of the area	Dadu Jamshoro Larkana Shikarpur Kashmore Kandhkot Thatta T.M.Khan Sujawal Badin Sanghar Khipro Naushahro Feroze Khairpur Mirpur Mathelo

4	<b>Reforestation of inland forests</b>			
		Renovation & rehabilitation of resting area at Kundah forest taluka Sehwan	Kundah forest was constructed in 1994 and requires rehabilitation and renovation. The renovation activities include, replacement of old windows and doors, repair and maintenance of electrical works, replacement of main gate, paint work and rehabilitation of boundary walls.	Dadu
5	<b>Mangrove conservation and development</b>			
		Afforestation on blank and de-vegetated mangrove areas	Mangrove protection and rehabilitation activities through community watch and ward system have been proposed on <b>55,000 acres.</b>	Karachi, Sujawal
		Protection of newly raised mangrove plantations through Coastal Negahbans	Local communities will be involved for protection of newly raised mangrove plantation through watch and ward system. Accordingly, each Coastal Negahban will protect 480 acres of mangrove forests. This will improve livelihood of the neighboring coastal community besides creating ownership feelings among them.	Karachi, Sujawal
		Women and Youth nurseries for fodder and fruit plants for livelihood benefits	Nurseries through women folk and youth have been proposed under this initiative. At least 2.00 million plants of local fruit plants, fodder plants and mangrove plants will be raised by above mentioned groups. 30% of the target raised by women /youth nursery, will be either be used by the incumbent or sold to get the income whereas, 70% of the target will be handed over to department for planting in the field etc	Karachi, Sujawal
6	<b>Improvement of Range Ecosystem</b>			
		Seeding/Reseeding	Seeds of palatable grass species will be broadcasted on potential sites and the area will be ploughed for covering the broadcasted seeds through top soil. Ploughing method like conventional tillage, reduced tillage and conservation tillage will be selected based on the soil conditions of that specific area. This operation	Umerkot Tharparkar & Karachi

			will be carried out before occurrence of rainfall in the Monsoon season	
		Sowing/planting/Dry afforestation	Scientific management of Rangelands in Sindh Province is lacking owing to scarcity of water, non-availability of required funds and harsh climatic conditions. Under this activity, 900 acres will be planted with local fodder tree species.	Umerkot Tharparkar Karachi
		Establishment of Scrub Forest	Under this activity, scrub/olive plantations consisting Olive, Kandi, Babul, Kumbat, Ber etc. shall be established and maintained over 200 acres as trial plantations to create seed sources and for scaling up at later stage.	Dadu
		Community Protection Payments (Community Watchers/ Negehban)	The planted area will be protected through ten (10) Community Watchers/ Negehban. One Negahban may protect 20 acres of plantation keeping in view the dynamics of the area	Karachi Umerkot Tharparkar Karachi Dadu
		Installation of water pumps operated on moveable solar panels  Construction of tube well chamber room in range land zones	Scientific management of Rangelands in Sindh province is lacking owing to scarcity of water, non-availability of required funds and harsh climatic conditions. Under this activity, 900 acres will be planted with local fodder tree species. The blocks shall be fenced, watered through water storages and well boring where sub-soil water is available. The wells/tube wells shall be operated on solar system  Water pumps will be operated through moveable solar panels	Karachi Umerkot Tharparkar Karachi Dadu
		Village Nurseries of Fruit and Indigenous Plants	Under this project it is proposed to raise and supply about 1.00 million fruit and fodder plants and cuttings to farm owners and interested growers on subsidized rates to various target groups and free of cost to Armed Forces. Twenty-five to 50% of the target will be raised through farmers, youth nurseries and Women nurseries	Karachi Umerkot Tharparkar Karachi Dadu
		Fencing including barbed wire, mud wall and improvised material	The reseeded area will be protected against the tress passing and grazing through barbed wire/ mud wall or improvised material fencing. the land is owned by forest department and is not used as public right of	Karachi Umerkot Tharparkar Karachi Dadu

			way.Provision 44,900 Rft fencing has been provided in the PC-I.	
<b>7</b>	<b>Avenue plantations in Urban Centers</b>			
		Establishment of Avenue plantations in Urban Centers	Under this activity, <b>400 Av. Km</b> Avenue plantations will be carried out on newly constructed as well as old link roads around cities and towns of Sindh to reduce impacts of global warming and to impart stability to road surfaces. This plantation will be carried out at a distance of <b>10 feet</b> apart plant to plant and <b>10 feet</b> apart row to row, giving sufficient space for developing tree canopy. The number trees per Avenue Kilometer are 330 at a spacing of 10 feet x 10 feet plant to plant distance and 10 feet x 10 feet row to row distance. The approach roads of different forests shall also be tackled under this component. Choice of species will include Babul/ Naeem/ Siris, Shisham, Parkinsonia Moringa, and other ornamental species.	Karachi Hyderabad Sangar Tando Allahyar Mirpurkhas TM Khan Matiari Sukkur, Mirpurmathelo Jacombad Khairpur Shikarpur Dadu Larkana Shahdadt Benazirabad
	<b>Canal side Plantation</b>			
		Establishment of Canal side plantation	Under this activity, canal-side plantations over 500 Av. Km will be established. These plantations will be carried out on barren embankments in canal command areas in all districts of Sindh to create green spaces for population to lessen growing effects of climate change. The number trees per Avenue Kilometer shall be 330 at a spacing of 10 feet x 10 feet plant to plant distance and 10 feet x 10 feet row to row distance. Choice of species will include Neem, Talhi, Siris, Babul, Bakin, Sukhchain, Conocarpus, Ber, Jamun,Jungle julebi,Amrood and cheeku etc	Karachi Hyderabad Mirpurkhas Sangar Tando Allahyar TM Khan Matiari Sukkur Mirpurmathelo Khairpur JAcomabad Shikarpur Larkana Qambar Shahdadt Dadu Shaheed Benazirabad
	<b>Urban Block Plantation</b>			
		New planting	Under this activity, 500,000 Nos. plants will be planted. The plantation will be carried out in all districts of Sindh. It includes plantations in groves of local indigenous species, planting in the offices, schools and other suitable places to create green patches for the amelioration of environment and to reduce the impacts of global warming. However, the locations of this component are	Urban centers of Districts



			kept open ended and flexible to address the emerging needs of Urban Plantation from various organizations and in different cities/towns etc	
		Pay of Motivators	Motivators will be engaged on the planting site of Urban Block Plantations	
<b>Raising of container plants in women/ youth &amp; departmental nurseries</b>				
		Establishment of new nurseries at taluka level	<p>Nurseries will be developed on available land with department and community and no agricultural land will be used for these nurseries. Activities will be carried out through proper term of partnership with community</p> <p>These plants and cuttings will be supplied to farm owners and interested growers on subsidized rates and free of cost to Armed Forces &amp; Educational Institutions. Wide publicity on print and electronic media and website will be made to invite interested farmers for raising nurseries under this project.</p>	Urban centers of Districts as per requirement of District representative of Department
		Raising of Indigenous Trees & Shrubs in standard size containers	Raising of 10.00 million saplings of Indigenous Trees & Shrubs in standard size containers through youth and women folk in women/youth and departmental nurseries	Urban centers of Districts as per requirement of District representative of Department
		Raising of Fruit & Ornamental Trees in macro size containers	Raising of 1.20 million Fruit & Ornamental Trees in macro size containers through youth and women folk in women/youth and departmental nurseries.	Urban centers of Districts as per requirement of District representative of Department

### 3 Policy, Legal and Administrative Framework

This chapter provides an overview of the national and provincial legislation and the World Bank standards that are relevant to the environmental and social performance of the RRIMDU Project.

#### 3.1. National Laws and Regulations

National laws relevant to the project are presented in the **Table 3.1**

**Table 3.1. Relevant Environmental and Social Legislation at National Level**

Title and Description	Relevance
<p><b>National Conservation Strategy (1992)</b></p> <p>The NCS deals with fourteen core areas as follows: Maintaining soils in cropland; Increasing irrigation efficiency; Protecting watersheds; Supporting forestry and plantations; Restoring rangelands and improving livestock; Protecting water bodies and sustaining fisheries; Conserving biodiversity; Increasing energy efficiency; Developing and deploying material and energy renewable; Preventing and abating pollution; Managing urban wastes; Supporting institutions for common resources; Integrating population and environmental programs; and Preserving the cultural heritage.</p>	<p>The NCS is applicable to the proposed project. The project is aligned with the fourth core area of NCS, i.e. supporting forestry and plantations.</p>
<p><b>National Environmental Policy (2005)</b></p> <p>The policy includes guidelines to Federal, Provincial and Local Governments under the following relevant headings: Water supply and management; Air quality and noise; Waste management; Forestry; Biodiversity and protected areas; Climate change and ozone depletion; Energy efficiency and renewable; and Multilateral environmental agreements. Cross-sectorial guidelines are also included which link the environment to poverty, population, gender, health,</p>	<p>This policy is relevant to the proposed project and this ESMP has been prepared to manage the identified environmental and social impacts.</p>
<p><b>Pakistan Employment of Children Act 1991</b></p> <p>According to this Act, no child shall be employed or permitted to work in any of the project interventions e.g., skilled and unskilled labor work or in any other activity who has not completed his fourteenth (14) year of age.</p>	<p>There is a chance of employment of a child by a contractor. In accordance to this act contractor will be bound not to permit any child under 14 years to engage in construction and forest related project activities.</p>
<p><b>The Antiquities Act 1975</b></p> <p>The act is designed to protect antiquities from destruction, theft, negligence, unlawful excavation, trade and export.</p>	<p>Under the Act, the project proponents will ensure that no activity is undertaken in the proximity of a protected antiquity, and report to the Department of Archaeology if any archaeological discovery is made during the course of the project.</p>
<p><b>Pakistan Penal Code 1860</b></p> <p>In the context of environment, the PPC empowers the local authorities to control noise, noxious emissions and disposal of effluents.</p>	<p>The Penal Code can provide a basis to coordinate project activities with the local authorities to ensure that any activities</p>

Title and Description	Relevance
Pollution offences can still be tried under the relevant sections of PPC, 1860, as they have not been specifically repealed by a subsequent legislation.	under the project do not become a cause of public nuisance or inconvenience.
<b><i>The Protection against Harassment of Women at the Workplace Act 2010</i></b>	The act protects women against sexual harassment at the workplace, and will be applicable to project contractors, department officers as well as beneficiary parties
<b><i>Building Code of Pakistan 1986 (Seismic Provisions-2007)</i></b> It obligates following: <ul style="list-style-type: none"> <li>• The provisions of the Building Code of Pakistan (Seismic Provisions-2007) shall apply for engineering design of buildings, like structures and related components.</li> <li>• Construction of buildings in violation of the Building Code shall be considered as violation of professional engineering work as specified under clause (XXV) of section 2 of the Act.</li> </ul>	No major building construction is envisaged under the project. However, renovation of existing building at Kundah forest and construction of tube well chambers for protection of water source and machinery. It will be considered during the renovation and construction activities.
<b><i>Land Acquisition Act 1894</i></b> It is a “law for the acquisition of land needed for public purposes and for companies and for determining the amount of compensation to be paid on account of such acquisition”. The exercise of the power of acquisition has been limited to public purposes.	There is no land acquisition involved in any activity of the project. Most of the project activities will be carried out on state land. According to the WB guidelines the project with reference to land is categorize as “C”, therefore land acquisition act or its any clause will not be invoked for the project. No intervention will be implemented in any site in case of informal settlers ‘presence in the forest land, which will be managed through the VLD. No such site will be selected if there is any presence of informal settlers found. SFD will not acquire any land through LAA under this project.

### 3.2. Provincial Laws and Regulations

The relevant provincial laws and regulations are explained in **Table 3.2**.

**Table 3.2: Relevant Environmental and Social Legislation at Provincial Level**

Title and Description	Relevance
<b><i>Sindh Environmental Protection Act, 2014</i></b> The Act envisages protection, improvement, conservation and rehabilitation of environment of Sindh with the help of legal action against polluters and green awakening of communities. It equally lays emphasis for the preservation of the natural resources of Sindh and to adopt ways and means for restoring the balance in its eco-system by avoiding all types of environmental hazards.	After the 18th amendment, environment has become a provincial subject; therefore, this Act will govern the project activities. Section 17 of the Act requires preparation of Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) before commencement of projects likely to cause adverse environmental effects. For small interventions, it requires environmental checklist, but even that is relevant for

Title and Description	Relevance
	construction related activities of Kundah forest and rangeland tube well chambers. The scope of activities on any particular site will be limited to small scale civil works. Therefore, the scope is not large enough to warrant an EIA, IEE. Environmental checklist for legal compliance will be shared with EPA where applicable.
<p><b><i>Sindh Environmental Protection Agency (Review of IEE and EIA Assessment) Regulations, 2014</i></b></p> <p>This document sets out the key procedural requirements for conducting an IEE and EIA. The document lists the responsibilities of proponents and duties of responsible authorities and provides schedules of proposals for determining whether the project requires IEE, EIA or screening under Schedules I, II, and III respectively and lays down the procedures for Environmental Approval and for filing the case with the SEPA to receive the NOC.</p>	The proposed project interventions include renovation of existing building at Kundah forest and construction of rangeland tube well chambers. Therefore, it does not require site specific EIA or IEE. However, this ESMP has been prepared to deal with adverse environmental and social impacts and site-specific checklist will be used during execution phase.
<p><b><i>Sindh Occupational Safety and Health Act, 2017</i></b></p> <p>The act mentions health and safety requirements which need to be ensured to be complied by the employer/site in-charge and the workers.</p>	Under the Sindh Occupational Safety and Health Act, 2017, the contractor would be responsible to ensure the health and safety of the workers at workplaces (construction sites are also considered as workplace under the act).
<p><b><i>Sindh Environmental Quality Standards (SEQs) 2015</i></b></p> <p>In exercise of power conferred under section 6 of SEPA 2014 Sindh EPA with the approval of Sindh environmental protection council established Sindh Environmental Industrial Waste Water, effluent, domestic sewerage, industrial and ambient air emission for the vehicles, noise and drinking water quality standards.</p>	SEQ standards will be followed during execution of the project.
<p><b><i>Sindh Solid Waste Management Board Act, 2014</i></b></p> <p>The SSWMB Act, 2014 enacted to establish a board for collection and disposal of all solid waste, to arrange effective delivery of sanitation services, to provide pollution free environment and to deal with other relevant matters.</p>	Some activities under RRIMDU project will generate minor quantities of waste e.g., construction related waste. Waste will be managed in accordance with the SSWMB Act.
<p><b><i>Sindh Minimum Wages Act, 2015</i></b></p> <p>The laws relating to the minimum wages, i.e., the minimum Wages for Unskilled Workers Ordinance 1969, Minimum Wages Ordinance 1961, Cost of Living Allowance, and Sindh Employees Special Allowance have been merged in the Sindh Minimum Wages Act 2015. The Act provides for the regulation of minimum rates of wages and various allowances for different categories of workers employed in certain industrial and commercial undertakings and establishments.</p>	This act is applicable to the project as activities will require hiring of skilled and unskilled labor. The contractor/SFD working for the project will be bound to pay the worker as per the guidelines of this Act.
<p><b><i>Sindh Transparency and Right to Information, 2016</i></b></p> <p>The purpose of this Act is to provide transparency and freedom of information to ensure that all citizens have better access to public information, to make the</p>	The project will remain open in terms of information sharing throughout its lifecycle. Furthermore, the project will engage stakeholders and public at-large in a systematic and continuous manner. Moreover, the project

Title and Description	Relevance
<p>government more accountable to citizens, to enforce the fundamental right to information in all matters of public importance, to ensure transparency in all Government matters.</p>	<p>will establish a grievance redress mechanism to ensure transparency in all aspects.</p>
<p><b><i>Sindh Prohibition of Employment of Children Act, 2017 and Sindh Child Protection Authority Amendment Act 2021</i></b></p> <p>Part II of Sindh Prohibition of Employment of Children Act prohibits the employment of adolescents and children in hazardous work as listed in the Schedule. The Sindh Child Protection Authority Act was passed to "facilitate the cases of abuse and violence against children", according to the website of the Sindh Child Protection Authority. Section 20-D of the amended Act paves the way for special courts for child protection in each district of the province. In the amended Act, the term 'abuse' has also been clearly defined as: "abuse" means the child abuse and includes physical, psychological or sexual violence, exploitation, comprising economic exploitation and sexual exploitation, including child marriage, child trafficking or exploitive, domestic or commercial child labor, corporal punishment, injury and maltreatment.</p>	<p>These Acts are relevant for the project as it deals with child labor as well as corporal punishment. As per <i>The Sindh Prohibition of Employment of Children Act</i>, no child (under 14 years) is allowed to work in any establishment.</p> <p>Project GRM will record and resolve complaints regarding corporal punishment (if any). The Subprojects contractor/SFD will also be bound to abide by this Act during the implementation period.</p>
<p><b><i>Sindh Bonded Labour Abolition Act 2015</i></b></p> <p>The Act abolishes the bonded labour system and decrees a laborer free. Section 4 (2) also mentions, "no person shall make any advance under, or in pursuance of, the bonded labour system or compel any person to render any bonded labour or other form of forced labour."The practice of bonded labor has become a punishable offence after enactment of this act (with imprisonment for a term which shall not be less than two years nor more than five years and is to pay a fine not less than Rs. 100,000/=.</p>	<p>The Subprojects contractor/SFD will be bound to abide by this Act.</p>
<p><b><i>Sindh Cultural Heritage (Preservation) Act 1994</i></b></p> <p>This act aims to preserve and protect ancient places and objects of architectural, historical, archeological, artistic, ethnological, anthropological and national interest in the province of Sindh.</p>	<p>As per the initial assessment no such site has been identified in the project intervention areas, however the chance find procedures will be adopted during implementation.</p>
<p><b><i>Sindh Forest Act, 2012</i></b></p> <p>Sindh Forest Act regulates the provincial forest cover through legal provisions. According to this SFA forest are protected and conserved.</p>	<p>Project is proposed for plantation intervention in various ecological zones of Sindh with positive impacts and project will be executed in accordance with the Forest Act, 2012 and no unauthorized tree cutting will be allowed by the workers.</p>
<p><b><i>Sindh Wildlife Protection Ordinance, 2001</i></b></p> <p>Sindh Wildlife Protection Ordinance 2001, provides for the Preservation, Protection, and Conservation of wildlife resources directly and specifies restrictions on hunting/poaching of wild fauna.</p>	<p>Since proposed project interventions are planned to be executed in various forest zones having variety of local flora and fauna. Hence this ordinance will be applicable to this project.</p>

### 3.3. WB Operational Policies and their Applicability to RRIMDU

The objective of the World Bank's environmental and social safeguard policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines for the bank and borrowers in the identification, preparation, and implementation of programs and projects. The relevant WB operational policies are summarized in **Table 3.3**.

**Table 3.3: Relevant WB Operational Policies**

<b>World Bank Operational Policies</b>	<b>Relevancy to the sub-projects</b>
<p><b>Environmental Assessment (OP 4.01)</b></p> <p>OP 4.01 defines the EA process and its instruments. The WB requires EA to ensure that proposed subproject is environmentally sound and sustainable.</p>	<p>This policy is applicable as subprojects will have low to moderate level of environmental impacts. The sub-project activities are screened for the adverse impacts and mitigation measures are proposed in the ESMP.</p>
<p><b>Involuntary Resettlement (OP 4.12)</b></p> <p>This WB policy outlines that involuntary resettlement should be avoided or minimized by adopting alternatives project designs if possible or if avoidance is not possible for involuntary resettlement the affected persons should be compensated. The APs should be restored to their previous livelihood status as they were before.</p>	<p>This policy is not applicable for RRIMDU project as there would be no land acquisition and private land disturbance with no relocation or any involuntary resettlement.</p>
<p><b>Forestry (OP 4.36)</b></p> <p>The objective of this policy is to assist the WB's borrowers to harness the potential of forest to reduce poverty in sustainable manner, integrate forests effectively into sustainable economic development.</p>	<p>This OP is triggered since the sub-projects under Component 2 involve afforestation and reforestation activities, mostly on degraded land.</p>
<p><b>Natural Habitat (OP 4.04)</b></p> <p>This policy provides guidelines for conservation of natural habitats. Conservation of natural habitats is essential for environmental enhancement through sustainable development.</p>	<p>This OP is triggered as sub-projects under Component 2 will likely to be carried out within or near natural forests. ESMF includes screening procedure which will exclude the activities which are not allowed under the policy and inform the further impact assessment and mitigation measures required for each sub-project.</p>
<p><b>Pest Management (OP 4.09)</b></p> <p>This policy of WB supports strategies that promotes the use of biological or environmental control methods and reduces the resilience on synthetic chemical pesticides. All such project that involves the use of synthetic chemical pesticides will not be financed by the WB.</p>	<p>This policy is not applicable by proposed subproject. RRIMDU subprojects have no such activities that would require the use of any type of synthetic chemical pesticides.</p>
<p><b>Safety of Dams (OP 4.37)</b></p> <p>This policy seeks to ensure that appropriate measures shall be taken and sufficient resources</p>	<p>This policy is not applicable on the RRIMDU</p>

World Bank Operational Policies	Relevancy to the sub-projects
<p>should be provided for the safety of dams by WB funded projects.</p>	
<p><b>Projects on International Waterways (OP 7.50)</b></p> <p>This OP defines the procedure to be followed for projects the WB finances that are located on any water body that forms a boundary between, or flows through two or more states.</p>	<p>This policy is not applicable</p>
<p><b>Physical Cultural Resources (OP 4.11)</b></p> <p>The World Bank intends to preserve and avoid the elimination of cultural properties in the project area. The World Bank will not fund projects that will have chances to damages of non-replicable cultural properties and will fund only those projects that are sited or designed to prevent such damages.</p>	<p>Not applicable</p>
<p><b>Indigenous People (OP 4.10)</b></p> <p>For purposes of this policy, the term “Indigenous Peoples” is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees. This OP defines the process to be followed if the project affects the indigenous people.</p>	<p>There are no known indigenous groups in the project area as identified under OP 4.10. Therefore, this OP is not Applicable.</p>
<p><b>World Bank Policy on Access to Information 2010</b></p> <p>This policy aims to ensure transparency and accountability in the developmental projects that are funded by the World Bank. This makes the common people aware of the developmental process and their role along with the benefits of reducing poverty. The information disclosure to the stakeholders ultimately enhances the project planning and designing effectiveness and also promotes sustainable development. This policy provides ground for indigenous knowledge and experience to be included in the project and problems are identified well in advance.</p>	<p>To comply with this policy, the WB requires the environmental and social assessment reports to be shared with public in their local language and also displayed on the Bank’s Info Shop prior from the commencement of civil works. The ESMP will be translated in Urdu language and will be placed on project website once cleared from the WB.</p>

### 3.4. International Conventions / Agreements

The following international conventions to which Pakistan is signatory are relevant to project interventions:

**Table 3.4: International Conventions and Agreements**

Category	Convention/convention	Came into force
Chemicals and hazardous wastes conventions	Stockholm Convention on Persistent Organic Pollutants	April 2008
	Rotterdam Convention on the Prior Informed Consent procedures for Certain Hazardous Chemicals and Pesticides in International Trade.	July 2005
	Basel Convention on the control of Trans-boundary Movement of Hazardous Wastes and their Disposal.	July 1994
Atmosphere conventions/protocols	United Nations Framework Convention on Climate Change (UNFCCC)	June 1994
	Kyoto Protocol to UNFCCC	Jan 2005
	Vienna Convention for the protection of the Ozone Layer.	Dec1992
	Montreal Protocol on Substances that Deplete the Ozone Layer.	Dec 1992
Land / environmental cooperation conventions	United Nations Convention to Combat Desertification (UNCCD) in those Countries Experiencing Serious Drought and / or Desertification, Particularly in Africa.	Feb 1997
Cultural and natural heritage	Convention Concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention)	July 1976
Biodiversity related conventions/protocols	Convention on Biological Diversity (CBD).	July 1994
	Cartagena Protocol on Bio-safety to the Convention on Biological Diversity.	March 2009
	Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	Nov 1976
	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).	April 1976
	Convention on the Conservation of Migratory Species of Wild Animals (CMS)	Dec 1987



## 4. Environmental and Social Baseline Conditions of Project:

This section of the report presents a broad picture of the existing environmental and social conditions of project in the Sindh province as the project interventions will be carried out in all districts of Sindh province. Available secondary data from published literature, district census reports, and other documents was used to develop the baseline profile. The project districts are shown in the **Figure 4.1**.

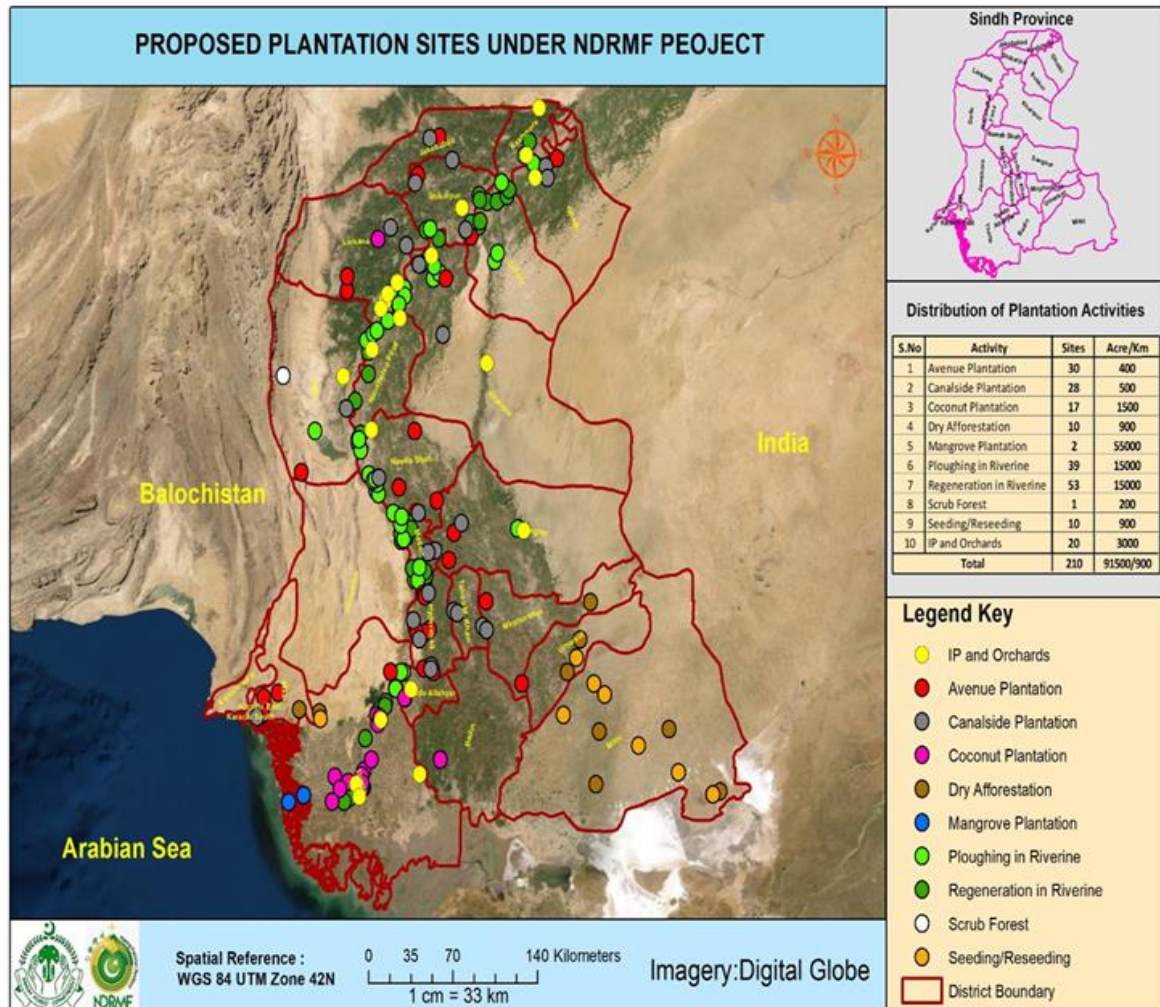


Figure 4.1: Project Area Map

## 4.1. Physical Environment

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### 4.1.1. Climate

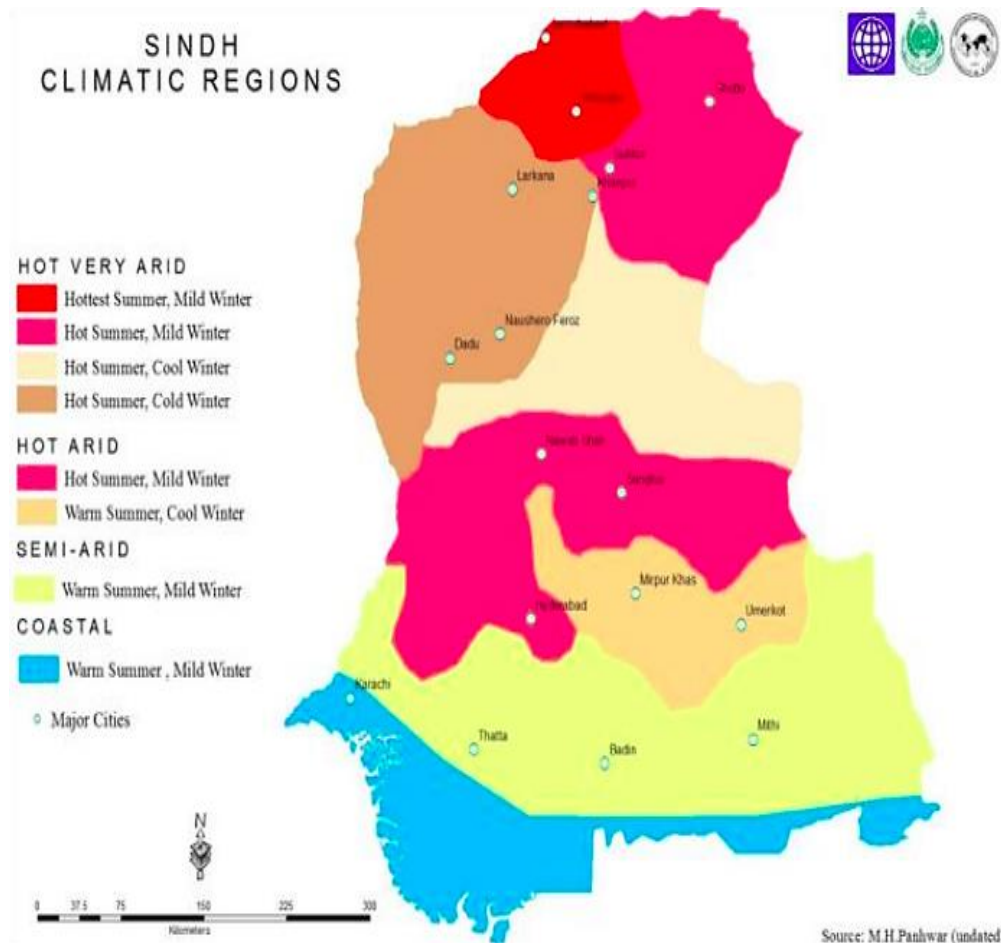
The province of Sindh is situated in subtropical region. It is hot in the summer and cold in winter. Temperature frequently rises above 46°C between May and August and the minimum average temperature of 20°C occurs during December and January. The coldest period spans from December to February, with mean monthly temperatures ranging from 20°C in the southern coastal zone to 15°C in the northern region of the province. Summer temperatures peak May and June with mean monthly highs from 25°C to 45°C.<sup>3</sup>

The annual rainfall averages between seven inches, falling mainly during July and August. The south westerly monsoon wind begins to blow in mid-February and continues until the end of September, whereas the cool northerly wind blows during the winter months from October to January. Sindh spans four distinct climatic regions: hot very arid, hot arid, semi-arid and coastal, shown below in **Figure 4.2**.

In the proposed project districts, Karachi falls in coastal region where warm summers and mild winters are experienced. Thatta, Badin, Tharparkar and TM Khan fall in Semi-arid zones where warm summer and mild winters are experienced. Tando Allahyar, Mirpurkhas and Umarkot fall in hot arid zones where warm summer and cool winters are experienced. Sanghar, Matiari, Jamshoro fall in hot arid zone where hot summer and mild winters are experienced. Dadu, Naushehro Feroz, Larkana and Kambar Shahdadkot fall in hot very arid zone where hot summer and cool winters are experienced. Sukkur, Ghotki and Kashmor & Kahdhkot fall in hot very arid zone where hot summer and mild winters are experienced. While Shikarpur and Jacobabad fall in hot very arid zone where hottest summer and mild winters are experienced.

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<sup>3</sup>ESMF for Sindh Solar Energy Project. World Bank, 2018. Accessed from:  
[https://ewdata.rightsindevelopment.org/files/documents/12/WB-P159712\\_tFsZ4Ac.pdf](https://ewdata.rightsindevelopment.org/files/documents/12/WB-P159712_tFsZ4Ac.pdf)



**Figure 4.2: Climatic Regions of Sindh<sup>4</sup>**

#### 4.1.2. Air Quality and Noise

Air pollution poses a significant risk to human health in Sindh province. Outdoor air pollution in urban areas and household air pollution in rural areas causes cases of upper and lower respiratory infections in population and particularly in children. Air quality varies from rural to urban areas in Sindh province due to various contributing factors. However, the proposed project will not have any significant impact on both urban and rural air quality due to limited scope of work i.e. plantations & minor civil works. Noise level will not be exceeded from the permissible limits due to project interventions.

<sup>4</sup> Final progress report of the GIS project of Sindh Education Reform Programme (SERP). World Bank, 2013. Accessed from: <http://rsusindh.gov.pk/contents/Downloads/Progress%20Report%20of%20the%20GIS%20Project%20of%20SERP.pdf>

#### 4.1.3. Topography

Sindh Province can be divided into four parts, i.e., Kirthar range on the west, a central alluvial plain bisected by the Indus River in the middle, a desert belt in the east and an Indus delta in the south.

- a) **Kirthar Range:** Kirthar Range is composed of three parallel tier of ridges which run in north south direction and vary in width from 20 to 50 km. The range consists of ascending series of ridges from east to west which are about 4000 to 5000 m high.
- b) **Central Alluvial Plain:** The fertile central plain constitutes the valley of the Indus River. This plain is about 580 km long and about 51,800 square kilometers in area and gradually slopes downward from north to south.
- c) **Eastern Desert Belt:** Eastern Desert belt includes low dunes and flats in the north, the Achhro Thar (white sand desert) to the south and the Thar Desert in the south east. In the north it extends up to Bahawalpur division where it is called Cholistan.
- d) **Indus Delta:** The distributaries of the Indus start spreading out near Thatta across the deltaic flood plain in the sea. The even surface is marked by a network of flowing and abandoned channels. A coastal strip 10 to 40 km wide, is flooded by high tide and contains some mangrove swamps.

#### 4.1.4. Surface and Groundwater

The major source of surface water in Sindh is the Indus River which flows south along the entire length of the country before draining into the Arabian sea off the southern coast. Groundwater in Sindh is found along the left bank of the Indus River and majority of rural communities are dependent on it. In many parts of Sindh, groundwater exists in the form of thin freshwater lenses that overlie deeper saline groundwater. These areas are tapped by shallow tube wells and hand pumps, which provide important domestic water supplies.

Water quality of the project areas will not be impacted because the interventions are of limited scope and major civil works are not involved. Nevertheless, mitigation measures are proposed on this ESMP to avoid the minor chances of water pollution for unforeseen cases.

#### 4.1.5. Natural Hazards and Vulnerability

Sindh is susceptible to three major natural hazards like floods, earthquakes, and drought. It is also vulnerable to cyclones. The province is susceptible to flooding from the Indus River basin, which causes damages almost annually. These incidents impact agriculture and livestock regularly, but can also destroy roads, homes, and irrigation facilities.

The following thirteen (13) districts are (Dadu, Jamshoro, Matiari, Larkana, Kashmore, Kandhkot, T.M.Khan, Sujawal, Shaheed Benazirabad, Naushahro Feroze, Sukkur and Khairpur) of riverine and inland zone are flood prone in the monsoon seasons. Project interventions are green and will protect the flood plains from erosion and loss of soil.

Mangrove sites are located in the Karachi and Sujawal districts along the sea coast where the main threat is cyclones for heavy rains. These districts experience major floods in the monsoon season and results in high level damages.

Karachi, Tharparker, Umarkot and Dadu districts are selected for intervention of rangeland ecosystem. Drought is the main natural hazard in Tharparker district particularly in dry spells and large number of residents move toward adjacent districts for shelter and water needs for domestic and livestock. Karachi, Dadu and Umarkot districts are at risks of both urban and rural flooding and the recent phenomena of climate change increased the damages.

Sindh is situated mainly in seismic zone 2A, with ground acceleration between 0.08 and 1 g.<sup>5</sup> This rating shows the province faces a medium-level risk of damage from earthquakes.

## 4.2. Biotic Environment

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The proposed project interventions are of limited scope and no major civil works are involved and the impacts on the biotic factors are scanty and mitigatable. Project area has been divided into ecological zones and biotic environment is described accordingly and given below:

### 4.2.1. Riverine & Inland Ecosystem

#### Flora

The riverine and inland forest has a number of plants, e.g., Mitho zehr (*Aconitum napellus*), Ban khewro (*Agave americana*), Gul khero (*Althaea rosa*), Kanwar gandal (*Aloe vera*), Phog (*Calligonum polygonides*), Sag ghal (*Chenopodium album*), Golarho (*Coccinia cardifolia*), etc. The proposed project interventions in this ecozone will not impact the existing flora.

#### Fauna

Both the riverine and inland forest zones support a number of wildlife species, which include Indian Pangolin (*Manis crassikandata*), jackal (*Canis aureus*), Jungle cat (*Felis chaus*), Hog deer (*Axis porcinus*), Black partridge (*Francolinus asiaticus*), Grey partridge (*F. pondicerlanus*), water fowl, etc. The proposed project interventions will not impact the existing fauna.

### 4.2.2. Mangrove Ecosystem

#### Flora

The main flora of this ecosystem consists of mangrove vegetation in the coastal corridors. Mangroves are natural vegetation developed usually beside shoreline close to seas and are significant sanctuaries and breeding places for wide variety of aquatic organisms.

Mangrove cover an area around 600,000 hectares in Sindh of which 280,470 hectares are owned by the provincial forest department. These forests consist of four mangroves species which include *Avicennia marina*, *Rhizophora mucronata*, *Ceriops tatal* and *Aegiceras corniculatum*. The most abundant species *Avicennia marina* which constitute up to 90% of the total mangrove population in the province.

#### Fauna

The fauna of this zones mainly consists of aquatic organisms in the form of large variety of fishes, shrimps, prawns, lobsters, crabs and turtles. Sea snakes are also encountered in this zone. Among flying fauna Egret, seagull white storks are most common species. Migratory faunal regimes are encountered in winters and mainly on isolated islands that mainly consisting of flying ducks, pelicans and flamingos.

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<sup>5</sup>ESMF for Sindh Solar Energy Project. World Bank, 2018. Accessed from:

[https://ewdata.rightsindevelopment.org/files/documents/12/WB-P159712\\_tFsZ4Ac.pdf](https://ewdata.rightsindevelopment.org/files/documents/12/WB-P159712_tFsZ4Ac.pdf)

### 4.2.3. Rangeland Ecosystem

#### Flora

Rangelands of Sindh province characterize a variety of flora that prefer to grow in the arid conditions of rangelands. All such plants species are dependent on the rainfall and their productivity and growth is totally dependent upon the seasonal variations. The growth remains high during rainy seasons and low during drought and low rainfall. Following are the main floral species of Sindh province rangelands.

*Acacia nilotica, Acacia senegalensis, Breria acanthoides, Calotropis procera, Capparis aphylla, Commiphora wrightii, Commiphora stocksiana, Cordia gharaf, Euphorbia cauducifolia, Grewiavillosa, Leptodenia pyrotecneca, Lyssium depressum, Pterophyllum oliveri, Prosopis cenraria, Rhizya stricta, Salvadora oleoides, Tamarix dioca, Tecoma undulata.*

At present these areas under threat due to overgrazing, change in land use and climate change particularly during low rainfall. These areas will be replenished and improved through the proposed project interventions.

#### Grasses

Rangelands are mainly covered by a variety of grasses species and the main rangeland ecosystem service in Sindh for grazing of livestock and hence the main source of income for community. Following are the major grasses species of rangeland in Sindh and target districts of project.

*Arisdita adscensionis, A. Mutabilis, Cenchrus ciliaris, Cenchrus biflorus, Cenchrus, Cenchrus pennisetformis, Cynodon dactylan, Cymbopogon jawarancusa, Digitaria sp, Eleusine flagellifera, Lasiarus indicus, Saccharum spontaneum, Sporobolus marginantus.*

#### Forbs

Forbs is the real beauty of the rangelands especially during spring and high rainy seasons. Forbs plays an important role in the rangeland ecosystem which provide attraction to the large variety of flies and insects for pollination purpose. Below given are the main forbs of Sindh rangeland ecosystem.

*Aerva tomentosa, Cassia holoserica, Convolvulus glomeratus, Crotolaria bifolia, Fagonia cratica, Helotropium ophioglossum, Indigofera oblongifloia, Rynccosia minima.*

#### Fauna

Rangelands are ecosystems that play critical ecological roles which include: habitat for wildlife, source of biodiversity and pollution buffer. Furthermore, rangelands in Pakistan are a major source of forage for livestock, particularly sheep and goats. The arid lands in Sindh cover 60% of total land area of Province. These rangelands also support millions of people and their livestock as a source of fodder, forage, food and fuelwood etc.

Registan lies in the districts of Thar, Mirpurkhas, Sanghar Khairpur and Sukkur covering the eastern flank of the province, which provides habitat for important fauna such as Partridges, Pea fowl, Sandgrouse, Birds of prey, rare Species of Chinkara, Desert cat, Indian wild Ass, endangered Houbara Bustard etc.

#### 4.2.4. Cultural Heritage Sites

A large number of archaeological, cultural, historical, and religious sites and buildings exist in the Sindh Province and many of them are protected under the Antiquities Act of 1975 and the Sindh Cultural Heritage (Preservation) Act of 1994. None of the known sites for PRIMDU sub-projects are located at and adjacent to the archaeological sites.

### 4.3. Socioeconomic Profile

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Recent studies of WWF/IUCN<sup>6</sup> revealed that about 1.6 billion people around the globe are directly dependent on forests for their livelihoods and forest are depleting on alarming rate of 3 percent annual decrease in the forest cover.

Dependency of Sindh province on Forestry has a long history. Forest have traditionally been used for supplying firewood and fuel wood to not only domestic consumers, but also to commercial and industrial users.<sup>7</sup>

To develop the socio-economic profile of the project, three basic sources have been used:

- Review of published Socio-economic studies
- Research data published by government departments and academia
- Stakeholder consultation

On the other hand, public consultation and collection for information from the ground is continuous processes. A Comprehensive screening checklist is prepared and it will be filled from all 196 sites before starting of project activities. Awareness and consultation process will remain in progress throughout the project cycle. This information and progress from the sites will be reflected in quarterly and bi-annual progress and monitoring reports.

Socio economic base line for the project is established on the basis of published secondary data and the primary information collected by the forest department and NDRMF Social and Environmental Consultants.

#### 4.3.1. Sindh Province Population

According to 2017 population census, Sindh accounts for 23.04% of Pakistan's total population i.e. almost 48 m out of a total 221 million. In the province population density is 250 persons per square km in rural areas. The urban centers are densely populated with an average of 1000 person per square kilometer. <sup>8</sup>

As the proposed project sprawls over all 29 districts of Sindh, hence Sindh rural area as a whole has been considered in this report for general socioeconomic indicators like demography, literacy rate, availability of social amenities because 90% project area is in rural Sindh.

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<sup>6</sup> Nature-dependent people: Mapping human direct use of nature for basic needs across the tropics, Global Environment Change.

<sup>7</sup> Environmental Change Impacts on Indus Riverine Forest, Sindh, Pakistan: Review, M. Amanullah, # and A. Ahmed

<sup>8</sup> Pakistan Bauru of Statistic

#### **4.3.2. Demography**

According to 2017<sup>9</sup> population census reports, the Sindh province contains 23.04% of Pakistan's total population. Total number of population is 47.9 million. Out of which 47.98% live in rural Sindh. The sex ratio in rural areas is 107% and average house hold size is 5.7%. Most of the population falls in the category of below 15 years. 22.27 % population falls in 15 years to 25 years' age group.

#### **4.3.3. Literacy and Education**

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), 10Pakistan has one of the lowest literacy rates in the world, and stands 160th among world nations. As per the Pakistan Social and Living Standards Measurement Survey (2019), literacy rate in rural Sindh stands at only 39%, whereas the female literacy rate is further disproportionately low at 21% compared to male literacy rate (55%). Apart from that, only 3.65% rural population is literate beyond higher education.

#### **4.3.4. Health & Nutrition**

Findings from the National Nutrition Survey 2018 exhibit that prevalence of iron deficiency anemia is 28.6% and zinc deficiency was 18.6% in rural Sindh.<sup>11</sup> More than half of children in Sindh are deficient in Vitamin-A. Besides Afghanistan, Pakistan is one of the only two countries where endemic polio transmission continues. The unsatisfactory status of health makes a large portion of the population even more vulnerable in cases of emergencies and disaster. The Sindh province has the poor health care system particularly in the rural settings. The project areas for mangroves are among the recipient of low health care facilities. The community has to travel up to 25 km or more to get proper health care.

#### **4.3.5. Civic Amenities**

Basic civic facilities are available in forest surrounding villages and hamlets although these facilities are compromised. Electricity and road network is available, but mostly the quality of roads is poor while power supply is unreliable and subject to long hours of load shedding. Primary and secondary schools for boys and girls are also available. Students has to approach to the nearest cities for higher studies. Medical facilities are scarce and least available.<sup>12</sup>

#### **4.3.6. Source and Quality of Drinking Water**

The findings of published data<sup>13</sup> for quality of drinking water about the rural areas of the province, indicate that water in the project area is of not good quality and is not fit for the

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<sup>9</sup> Census Report 2017, Pakistan Bureau of Statistic

<sup>10</sup> What happened to literacy? Historical and conceptual perspectives on literacy in UNESCO, International Journal of Education Department

<sup>11</sup> Factors Affecting Weaning Awareness Among Mothers in Rural Sindh, Ahsan Ali Dahani<sup>1</sup> , Syed Imtiaz Ahmed Jafry<sup>2</sup> , Syed Muhammad Zulfiqar Hyder Naqvi

<sup>12</sup> Disparities in access to health and other civic facilities in Pakistan: An inter and intra-provincial analysis, Abdul Ghafar Hamid, Naeem Akram, Irfan Akram

<sup>13</sup> Adolescent food insecurity in rural Sindh, Pakistan: a cross-sectional survey, Romania Iqbal, Rahat Qurashi.



drinking. In some coastal areas, ground water is saline therefore the communities have to fetch the water from nearby town. Waterborne diseases are abundant in the rural areas.

#### **4.3.7. Occupation**

According to the Economic Survey of Pakistan, agriculture is the main source of employment in Sindh. 42% of the population works in the agriculture, fisheries and forestry sectors, followed by 35% in services (including government) and 22% in industry and associated jobs.

#### **4.3.8. Forestry and Livelihood<sup>14</sup>**

The riverine forests exist along both banks of the Indus River. The main species in these forests are *Tamarix dioica* (Lai), *Saccharum munja* (Kanh) *Populus euphratica* (Bahan) and *Babul* (Kikr). *Babul* is the dominant tree of Riverian forest of Katcha area. The growth of these species is a source of livelihood for thousands of people and also provides fuel wood, timber, fodder, honey, tannin etc. In the lower Indus delta, mangroves forests are a significant source as one hectare of mangrove forests produce 100 kg of fish, 25 kg of shrimps, 15 kg of crab meat and 40 kg of sea cucumbers annually. Surrounding communities of different tribes bring their animal like goats, cows and camels for grazing in the pastures of these forests. These forests are also an important sink and reduce the severity of flood. Even today still a major chunk of village population's livelihood is dependent on forest as a secondary profession. Village population collect dead woods, honey, medicine plants and bi products from the Forests.

#### **4.3.9. Areas Under Forest in Sindh**

There are various types of forests in Sindh i.e. Riverine, Inland, Mangroves, Dry-land and Urban Forest. Sindh is the 2nd largest province in terms of agriculture production in Pakistan occupying a total cultivated command area (CCA) of 5.1 million ha. The cultivable waste land or forest land in the province is about 1.3 million ha. More than 78% of the irrigated land in Sindh is underlain despite saline or brackish water, which is unfit for agriculture.

#### **4.3.10. Sindh Rural Economy<sup>15</sup>**

Rural Sindh has over 50% of the province's population and about 30% of the provincial economy. More than 70% of rural residents (and 42% of the total population) derive their livelihood from agriculture, livestock, forestry and fishing. The slow growth of the rural economy has created a large and widening income gap between urban and rural Sindh. The poverty headcount ratio is around 30% in rural areas as double of urban areas. The large rural urban divide is a serious concern for the welfare of the rural population and is potentially destabilizing.

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<sup>14</sup> Socio-Economic and Biophysical Characteristics of Forest Fringe Communities of Sindh Forest Division in Kashmir Himalayas M. A Aslam, PA Sofi

<sup>15</sup> Demographic, socio-economic and environmental determinants of utilisation of antenatal care in a rural setting of Sindh, Pakistan

#### **4.3.11. Economic Losses due to Deforestation<sup>16</sup>**

As a result of the high level of deforestation and variability in yearly rainfall, temperatures, and ocean levels, Sindh faces significant challenges in its socio-ecological structures. The economy suffered significant damage to infrastructure, pollution, crop destruction, loss of human lives, damage to public and private property, and degradation of health conditions due to natural disasters, the recent floods being the prime example. As a result of these risks, more resources and government expenditures are focused to repair and rehabilitation, leaving little room for development.

Every year extensive areas of arable agricultural and forestlands are degraded and turned into wastelands over time, due to natural causes or human interventions. Economic losses of the Indus River Delta are constantly increasing since the last two decades.

Mangroves are washed away from the region as 38% area of the delta has been reduced due to shortage of freshwater below the Kotri barrage. Brackish water of the Arabian Sea is increasing due to the intrusion of seawater and the production of fish, crops, fruit, and mangrove forests are decreasing.

#### **4.3.12. Community Dependency on Forests**

Communities are fulfilling their daily routine needs from the forest since centuries. With deforestation surrounding communities are also facing problems in their daily domestic needs like shortage of fuel and timber woods, honey and medicinal plants and tree leaves for their goats and animals. There is an urgent need to initiate participatory management approach towards management and development of riverine forest. Conservation is as important rather more important than regeneration.

#### **4.3.13. Women Conditions in Project Area<sup>17</sup>**

Women in the project area are not socially and economically at par with their male counterparts. Women are economically and socially marginalized and politically lacked voices. Lack of skills, limited opportunities in the job market, and social and cultural restrictions limit women's chances to compete for resources in the public arena. This situation has led to the social and economic dependency of women that becomes the basis for male power over women in all social relationships.

#### **4.3.14. Religious Minorities**

The majority of the population of the Sindh province is Muslim. Although, 90.34% of the total population declares Islam as their faith, the province has still relatively higher proportion of minorities living in it. The largest community amongst minorities is Hindu, which constitute almost 7% of the total population followed by Scheduled Castes i.e., 1.74% of total population reported in Census-2017.<sup>18</sup> Tharparkar has the highest proportion of Hindu population (more than 43%). Other districts also have significant

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<sup>16</sup> Demographic, socio-economic and environmental determinants of utilisation of antenatal care in a rural setting of Sindh, Pakistan

<sup>17</sup> Health care seeking behaviours in pregnancy in rural Sindh, Pakistan: a qualitative study, Nighat Najam Qurashi, Sana Sheikh & et all

<sup>18</sup> [https://www.pbs.gov.pk/sites/default/files//population\\_census/ncrPCR/PCR%20Sindh.pdf](https://www.pbs.gov.pk/sites/default/files//population_census/ncrPCR/PCR%20Sindh.pdf)

populations of Hindus and other minority communities. Christians constitute almost 1% of the provincial population. They are mostly concentrated in Karachi, with limited presence in other cities. Their presence in the rural areas is minimal.

#### **4.3.15.Mechanism of Conflict Resolution**

In rural areas of Sindh most of the conflict associated among individual and among tribes are associated to land or land base assets. Minor conflict issues are settle down through informal Panchayat system. If the conflict is escalated, it may raise to legal court or to police station. To manage the conflict regarding the project activities GRM system is proposed if following chapter.

## **5. Land Use and Community Involvement**

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### **5.1.1. Land to be Used for the Project**

Sindh Forest Department (SFD), as the implementing agency of the project, will carry out that all the project activities on SFD department land or state land. SFD will not go for any land acquisition or resettlement under the project. In case any informal settlers are living on a piece of land proposed for project activities, the department will not remove these settlers and instead select an alternative site for the activities.

### **5.1.2. Due Diligence for AED**

In the recent past, there have been a number of anti-encroachment drives (AED) conducted on the orders of courts and other competent authorities in different parts of the province. These actions by the Government are entirely legally compliant. However, the current statutory regime in the country does not provide for any compensation to be paid to the people affected by such AEDs for loss of their assets or structures (though they do not own the land they occupy). In order to remain free of any controversy around AED, the SFD will not carry out any activities on the lands where an AED has taken place during the past five years.

SFD will undertake a two-step process to ensure that the proposed parcel of land has not been subjected to the AED:

1. SFD representative will carry out a public consultation with the respective community. The use of land, its ownership, any disputes about the land and any past AED will be explicitly discussed during the meeting, and the proceedings will be duly documented. In case of AED within the past five years, the relevant land parcel will be screened out from the project.
2. For each proposed site, the SFD will obtain a letter from the local government / any other relevant government authority, certifying that there has been no Anti Encroachment Drive on the proposed site during the past five years.

### **5.1.3. Community Involvement through TOP**

In terms of livelihoods, the project is expected to generate direct and indirect opportunities of employment for the rural communities. It has been estimated that the project will require 515,300 person-days of local labour, which is equivalent to 17,177 person-months of employment. Besides, the project will also generate direct / green jobs to 329 persons by engaging community people as Nigehban (caretaker) etc.

The project will engage and involve the surrounding communities through trainings, employment, kitchen gardening and awareness campaigns. The informal and unskilled labor will be hired from the surrounding communities. Jobs will also be provided to the people as Nigehban. Engagement of the surrounding communities in the project will ensure its sustainability.

The SFD will formalize the community engagement in the project through a Term of Partnership Agreement. The TOP agreement will clearly lay down the roles and responsibilities of the department and the community. Before signing the agreement, a Village Committee will be established and the TOP will be carried out with community after elaborating them the clear objectives. The SFD has specimen agreement which will be utilized according to the activities and these agreements may be tailored according to the requirements.

## 5.2. Objective of Community Involvement

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The department will engage the community through public consultation, awareness campaign and departmental field staff. Following objectives will be gained through community involvement:

- Livelihood enhancement
- Labor work for women and poor communities
- Improve the quality of local human environment.
- To Increase the income and livelihood sources for local people from the sale of minor forest products and trading of ecosystem services and provide gainful employment opportunities to the local people dependent on forest ecosystems.
- Enhance forest land productivity to supplement growth of multipurpose tree species.
- Climate change resilience and contributing to flood security through sustainability and feeding grounds of livestock of Sindh.
- Raising awareness through training, workshops, seminars and field visits among people of forest resource.
- Rehabilitation of degraded Rangelands for improved productivity.
- To strengthen participatory forestry and Range management for overall good of the society.
- To Strengthen Social Forestry Activities in the targeted areas.
- To ensure availability & supply of planting stock to farmers and progressive tree growers on subsidized rates.
- To strengthen participatory forestry through development of green patches in urban areas of cities and for overall enrichment of aesthetic environment of the society.

### 5.2.1. Community Livelihood Enhancement

In terms of livelihoods, the project is expected to generate direct and indirect opportunities of employment for the rural communities. Male and female members of the community will be engaged in project activities like for seedling and sapling provisions and recruitment as Nigahban/ coastal Nighban. In such activities, following important points will be considered:

The surrounding communities will be given preference in livelihood activities.

The department will devise a merit based, transparent policy which will provide a fair chance to be involve in project activities for everyone.

There will be no biasness on tribal or cast and creed basis.

Females and vulnerable communities will be given special fair chance to enlist in the unskilled jobs and labor work.

Fair and bias free chance will be given to everyone.

The idea is introduced to make community realization for the ownership of forest area around which they are living. Project activities related with community livelihood enhancement are listed below:

- Coconut/Palm plants will be grown on available barren forest land as a model to attract community as viable livelihood option.
- The forest department will auction these plants upon maturity and the revenue generated from it will be utilized for future afforestation interventions.
- The planted area will be protected through ten (10) Community Watchers/ Negehban. One Negahban may protect 20 acres of plantation keeping in view the dynamics of the area
- Local communities will be involved for protection of newly raised mangrove plantation through watch and ward system. Accordingly, each Costal Negahban will protect 480 acres of mangrove forests. This will improve livelihood of the neighboring coastal community

besides creating ownership feelings among them. Nurseries (for fodder and fruit plants) through women folk and youth have been proposed under this initiative.

### **5.3. Community Mobilization Mechanism**

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The awareness about the project objectives to the surrounding communities will be given by the Project. The general objective of the Community Mobilization process is to mobilize the community and the households of the vicinity who will be the ultimate beneficiaries as a result of successful execution of the proposed interventions under the project. Following steps/ processes will be adopted for community mobilization.

- Support them to play their role in forest conservation activities with particular focus on nature based eco-system restoration
- Establish Forest Division Level Community Consultation Committee (CCCs)
- Convene quarterly meetings with CCCs for keeping them abreast of the ongoing interventions and their progress
- Build their capacity to act as local management system
- Support the identification, registration, retention, monitoring and verification of Protection Negahban including all the persons who are employed on work charge basis, and their services' delivery
- Follow up with community and all the stakeholders for mainstreaming the adaptation to Climate Change Impacts and mitigation through ecologically targeted.

#### **5.3.1. Training for Communities**

The department will provide skilled and unskilled jobs to the surrounding communities. After engaging these communities in the project, the project will provide training to these people. Although these people are already well versed with the plantation skill.

These training will be of two types i.e. workshops and on job trainings. For training purpose village organization and CBOs will be formulated in the form the communities. The head of the community organization will be trained as a master trainer for the plantation activities and he will further train their community members. The females of the communities will also engage plantation activities and therefore they are also part of it. On the other hand, project will carry out the community awareness and community mobilization mechanism.

## 6. Stakeholders Consultations & Methodology:

Public consultation and stakeholders' consultation is mandatory for every stage of the project i.e., pre project stage, during project at start of every new site or new activity and it will continue throughout the project life. Furthermore, awareness workshops will be carried out at district and taluka levels.

### 6.1. Objectives of Stakeholder Consultation

Public consultations are essential to fulfill the following objectives:

- Disbursement of information related to the project and its possible utilization in the project designing/planning and implementation;
- Identification of likely impacts on land, resettlement, loss of livelihood, etc.;
- Ascertaining the most acceptable solutions and mitigation measures for possible issues which could arise during implementation of the project activities;
- Eliciting community comments and feedback on the project;
- Encourage transparency and inculcate trust among various stakeholders to gain cooperation and partnership from the communities, local leadership, and NGOs.
- Record concerns regarding the various aspects of the project, including the existing situation, project area/area of influence, construction works and the potential impacts of the construction-related activities and operation of the project.
- Incorporate mitigations measure to address concerns with project design and implementation.

### 6.2. Identification and Classification of Stakeholders

These include Communities living in the project surrounding areas, associated departments/agencies, NGOs and others, whose assets/land, business, structures, installations, or interests may be impacted due to the project activities.

The three categories of Project Stakeholders, as per the ESS10, are:

- Affected Parties: People, groups or institutions directly related with the project and can influence the project outcome.
- Other Interested Parties: individuals or groups whose interests may be affected by the Project and who have the potential to influence the Project outcomes in any way.
- Disadvantaged / Vulnerable Groups or Individuals

The list of initially identified stakeholders for this project is provided in Table 6.1

**Table 6.1: List of Stakeholders**

Stakeholders	
Affected Parties (primary stakeholders)	District Administration
	Revenue Department
	Wildlife Department
	Environment Protection Department
Local Community	
Other Interested Parties	Provincial government line department, i.e., Archaeology department, Sindh Cultural department etc

	People living close to the proposed schemes area in proposed districts of Sindh province.
	NGOs working in the area
	Agriculture Department
	Local Landowners
	Irrigation Department
Vulnerable Groups or Communities	Religious Minorities
	Women
	Persons with disabilities

### 6.3. Key Issues Considered During Stakeholder Engagements

A number of issues have been identified for the project as listed below. These issues were discussed with the stakeholders during consultation sessions thus far, and will continue to be discussed in the forthcoming consultations also.

#### a. Identification of Ecologically Sensitive Sites

This is with regard to finding out and identifying areas that are protected by national laws and international conventions such as forest reserves, Ramsar sites, important migration routes, etc. An initial environmental and social screening has revealed that the project will not affect any such sites in the identified districts.

#### b. Identification of Important Cultural Sites

These usually include lands set aside for cultural ritual sites, cemeteries, world heritage sites and special burial sites. Initial screening revealed that the project is not likely to affect any such areas in the identified districts.

#### c. Identification of Environmental Impacts:

These include both negative and positive environmental impacts of the project. The issues covered such as levels of pollution – water pollution, air pollution, issues such as oil spills, generation of wastes, destruction of biodiversity and ecological habitats, etc. These have been identified and remedial measures proposed in the ESMP to address the issues.

#### d. Environmental/Biodiversity Issues

These may include issues of destruction of natural environment including damage to vegetation, views from conservationists, and damage to biodiversity of biological and economic importance, biodiversity loss in general, intensity of construction and excavation works, etc. These were identified and mitigation measures have been proposed in this ESMP.

#### e. Socio-Economic Considerations for the Project

During the development of socio-economic profile of the project areas, the socio-economic conditions regarding of forest and forest products were analyzed. The relationship between forest and the communities was reviewed and strategy was devised to engage the communities in project activities, green jobs creation and livelihood enhancement.

#### f. Socio-cultural Issues regarding the Project

The cultural heritage and cultural norms of the project areas were screened through screening checklist and mitigation measures were proposed accordingly. Most of laborers will belong to the communities living in project sites vicinities. The SFD and laborers will



abide to the local and societal norms and local culture. The religious rituals and religious practices will not be hindered.

**g. Trans-boundary issues and cumulative impacts**

During stakeholder engagements and public consultations, issues such as possible trans-boundary impacts of the project were reviewed. Cumulative impacts such as contribution to changes in climatic conditions were evaluated.

**h. People Stakes towards Forests**

Literate people perceive that forest resources offer defense in war, stop salinity and water logging, provide direct and indirect employment, natural way of reduction in pollution and other environmental hazards, balance of forests protect the crops from cyclone and natural disasters, manure to the crops, maintenance of fertility of the crops.

Generally, the people living in and around the forest perceive that forests are a primary source of livelihood for thousands of rural communities across Sindh but multiple threats and factors are accelerating their rate of depletion. These communities are worried and more concerned about the depletion of forest resources.

**i. Awareness Campaign**

Outreach and conservation awareness could target and engage rural populations living in and around forest areas to build positive attitudes and behaviors to reduce threats to biodiversity. Awareness initiatives use a variety of media directed at community leaders, forest resource users, students and government partners. Exposure visits of different ecosystems and forest type of other provinces, GB and AJK will be organized to have better understanding of different successful management practices for forest officers. Awareness and outreach component is proposed in the project to achieve the aforementioned purpose and ensure sustainability.

**6.4. Consultation Findings**

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Only pre-plantation consultation session has been conducted at this stage.

Both public and non-public sector entities were consulted as part of the process. Project details were communicated and their concerns and suggestions were recorded and addressed. The summary of sessions is given in **Table 6.2**. Attendances of the sessions are annexed as **Annexure 2**.

**Table 6.2: Consultation Findings and Response**

Sr. No	Date	Location/ District	Stakeholder	Concern/Suggestions	Response
1	7-7-21		Community and Forest Department	Community should be provided employment.  Poor people may be provided subsistence.	Surrounding communities will be engaged in project through CCCs and labor work will be provided to the communities.  Employment and labor work opportunities will be provided to the communities as much as possible.

2	14-1-22	Keti Bandar  Gaghar/ range land areas	Community and Notables of the area	Community Consultation committees should have representation of all tribes/community groups.  Trespassing and grazing rights should not be disturbed.	SFD will formulate CCC with consensus and taking on board all the concerned tribes/communities.  Accessibility disturbance will be minimized to the extent possible; Alternative routes will be provided where necessary.  Alternative grazing Pasture will be provided for grazing by SFD.
3	11-4-22	Karachi  Gharu,  Bandar  Jhamb	Community Heads  Wild Life staff  Forest Department Field Staff  District Administration	<ul style="list-style-type: none"> <li>• Community should also be provided labor jobs</li> <li>• Stakeholder government departments should adopt policies and enact laws which provide opportunities to local communities to develop their management skills and incentives for long-term sustainable management of riverine forests.</li> <li>• The communities should be mobilized, organized, empowered and trained in human ecology and conservation so that they may be partners in protection, production and economic benefits at mutually agreed conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Unskilled and labor jobs will be provided to the surrounding communities.</li> <li>• Training will be provided to the community heads and master trainers will be prepared</li> <li>• Community mobilization and awareness is the part of project activities</li> </ul>

4	11-4-22	Hyderabad  Tando Hyder  Tando Yousaf  Husri & Seri	Community Heads  Wild life staff  Forest Department Field Staff  District Administration	<ul style="list-style-type: none"> <li>• Social mobility of women should not be restricted during construction stage.</li> <li>• Awareness about the project activities should be provided to ensure the community participation to create sense of ownership</li> <li>• The contractor should abide to provide jobs to local community.</li> </ul>	<ul style="list-style-type: none"> <li>• The project will give special attention that the privacy of female and children remain intact.</li> <li>• The labor and work force will never enter/trespass in local settlements/populated areas</li> <li>• Traditional Right of Way (RoW) and routes used by the community will not be blocked.</li> <li>• No fencing will be allowed to stop the community routes around the target planation areas.</li> <li>• Before start of the project activities the surrounding communities will be consulted and taken on board regarding the project activities</li> <li>• The surrounding communities will be given preference for skilled and unskilled jobs.</li> </ul>
5-11-22		Larkana  Wahanri  Agani	Community Heads  Wild Life staff  Forest Department Field Staff  District Administration	<ul style="list-style-type: none"> <li>• Riverine forests should be declared as 'biosphere reserves' to restrict anthropogenic implications for certain period of time and the ecosystem be allowed to develop naturally with minimum human interference.</li> <li>• Forest department needs to start incentive programs to promote farm forestry on private lands and community-based woodlots on state arable lands to meet their fuel wood needs.</li> </ul>	<ul style="list-style-type: none"> <li>• There is great scope of improvements in the present forest management strategies and policies so as to expand management responsibilities of forestry personnel to include human ecology and conservation.</li> <li>• Project will give preference to the females for purchase of nursery plants if quality plants will be available with them.</li> </ul> <p>Female will not be stopped from collection of dead woods.</p>

				<p>The female should give engagement in nurseries plantation.</p> <p>Female should not be stop from collection of dead woods.</p>	
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**Further site-specific consultation sessions will be carried out before start of every new activity and will continue till the completion of the project**

### Consultation Plan

The summary of consultation carried out till date is annexed (**annex 5**). As discussed earlier in this section that sample-based consultations have been conducted during the ESMP preparation due to the fact that project area is wide and scattered across the whole province.

It is mandatory for field formation of SFD to carry out comprehensive consultation sessions on every project site before start of the project activity. The consultation with the community is a continuous process and communities will be taken on board before initiating any new project activity during the project implementation. The future consultation plan is provided in the **Table 6.3** below and will be followed during the project implementation.

**Table 6.3 Future Consultation Plan**

Description	Target Stakeholders	Timing	Responsibility
Stakeholder consultations as part of the screening of each subproject/scheme	Affected communities Secondary stakeholders	During screening of each scheme	Consultants/SFD
Public awareness campaigns/ scoping sessions to share the ESMPs with the communities and other stakeholders.	Communities within subproject area, general public; and	During the preparation of ESMP/screening;	SFD/ ESMP Consultants

Description	Target Stakeholders	Timing	Responsibility
Location: various places in project area	line departments/agencies.	to be continued thereafter	
Consultations with the communities during implementation Location: various places in project area	Communities at/around subproject area	Before commencement of subproject activities.	SFD and Consultants
Establishment of GRM and GRCs Location: various places in project area	Communities at/around subproject area	Before commencement of subproject activities.	SFD and Consultants
Grievance redress Location: various places in project area	SFD staff; consultants; relevant line departments; and communities.	Subproject implementation Stage	SFD and Consultants
Informal consultations and discussions. Location: various places in project area	Communities at/around subproject area	Subproject implementation Stage	SFD, Consultants, and contractor
Consultations with the communities during internal monitoring Location: various places in project area	Communities at/around subproject area	Construction Stage	SFD and Consultants

## 6.5. Consultation with Women, Vulnerable Communities & Minorities

The women in rural communities of Sindh carry out household work and look after the family and children. Most of the female population in the project area was not socially and economically at par with the male population because of negation of their roles as producers and providers in all social roles. Thus, women are economically exploited; socially marginalized and politically lacked voices. Lack of skills, limited opportunities in the job market, and social and cultural restrictions. Hindus and schedule castes are large communities in rural areas and attached to orchards and forest activities. During the future public consultations, women and minorities will be given special attention.

## 6.6. Consultation Methodology

The project will utilize various methods of engagement that will be used as part of its continuous interaction with project stakeholders. For the engagement process to be effective and meaningful, various techniques will be applied, tailored to the identified stakeholder groups. In accordance with best practice approaches, the project will apply the following principles for stakeholder engagement:

- **Openness and life-cycle approach:** stakeholder consultations for the project(s) will be arranged during the whole life cycle, carried out in an open manner, free of external manipulation, interference, coercion or intimidation;

- ***Informed participation and feedback:*** information will be provided to and widely distributed among all stakeholders in an appropriate format; opportunities are provided for communicating stakeholders' feedback, for analyzing and addressing comments and concerns;
- ***Inclusiveness and sensitivity:*** stakeholder identification is undertaken to support better communication and build effective relationships. The participation process for the projects is inclusive. All stakeholders at all times encouraged to be involved in the consultation process. Equal access to information is provided to all stakeholders. Sensitivity to stakeholders' needs is the key principle underlying the selection of engagement methods. Special attention is given to vulnerable groups, in particular women, internally displaced persons (IDPs), returnees, drug addicts, persons with disabilities, youth, elderly and the cultural sensitivities of diverse ethnic and religious minority groups and those living in remote or inaccessible areas.

The project has divided its stakeholder engagement into two phases:

**Phase I (Project Preparation):** Stakeholder engagement during this phase focused on representatives from line departments, communities and relevant provincial organizations. The purpose of stakeholder engagement during this phase was to: ascertain institutional needs; apprise all stakeholders about planned activities/reforms; improve project design; create synergies; and include the perspective of vulnerable groups

- **Phase II (Project Implementation):** Extensive stakeholder engagement will continue to be carried out during this phase with institutional stakeholders, communities, disadvantaged/vulnerable groups and other interested parties. Table 6.3 provides a summary of stakeholder engagement during this phase along with the corresponding tools and techniques for conducting them. These will be further refined during project implementation.

## 7. Environmental & Social Assessment & Mitigation Measures

### 7.1. Overview

The reconnaissance field visits were carried out to assess environmental and social impacts of RRIMDU project. Outcomes of rapid assessment for potential environmental and social impacts, mitigation measures and residual impacts after mitigation are given in **(Table 10)**. The project activities are green (plantations) in nature and will not cause any significant disturbance and inconvenience to local community and natural environment of the area. The identified impacts are of minor to moderate in nature which could easily be mitigated through implementation of management and monitoring plan.

### 7.2. Impact Significance

The project anticipated impacts are evaluated and categorized using the magnitude vs severity matrix described in **Table 7.1**. In order to apply the impact matrix approach, ecological zones are identified for the project area and explained in this subsection.

**Table 7.1: Impact Significant vs Severity**

The Magnitude of Impact	Sensitivity of Receptors			
	Very Severe	Severe	Mild	Low
Major	Critical	High	Medium	Negligible
Moderate	High	High	Medium	Negligible
Minor	Medium	Medium	Minor	Negligible
Minimal	Negligible	Negligible	Negligible	Negligible

#### Summary of Impact Significance

**Table 7.2: Impact Characterization and Significance of Project**

Impacts	Magnitude	Duration	Severity
<b>Potential Positive</b>			
Carbon Sequestration	Moderate	Long Term	Negligible
Regulation of stream and river flows	Moderate	Long Term	Negligible
Climate amelioration	Moderate	Long Term	Negligible
Improved soil productivity and conservation	Moderate	Long Term	Negligible
Enhanced biodiversity	Moderate	Long Term	Negligible
Improved water quality and quantity	Moderate	Long Term	Negligible
Increased forest cover	Moderate	Long Term	Negligible
Foundation of Coastal Food Web	Moderate	Long Term	Negligible

<b>Social Impacts</b>			
Increase in Forest Areas	High	Long Term	High
Increase in grazing pastures	High	Long Term	High
Availability of dead woods	Moderate	Long Term	Minor
Provision of direct jobs	Moderate	Short Term	Medium
Provision of indirect jobs	Moderate	Short Term	Medium
<b>Potential Negative</b>			
Increased water use	Moderate	Medium Term	Minor
Landscape/Soil/clearance/excavation	Moderate	Medium Term	Minor
Increased risk of pollution from waste generation	Minor	Short Term	Low
Water Quality	Moderate	Short Term	Medium
Air Quality	Moderate	Short Term	Medium
Impacts on flora and fauna	Minor	Short Term	Low
Occupational Health and Safety (OHS)	Moderate	Short Term	Medium
Risk of Covid-19	Moderate	Short Term	Medium
<b>Social Impacts</b>			
Movement of Communities & Females	Moderate	Short Term	Medium
Chances of Elite Capture	Low	Short Term	Low
Discrimination in inclusion of CCC	Low	Short Term	Medium
Discrimination in Jobs and labor recruitment	Moderate	Short Term	Medium

It is to be noted that the impacts categorization in the above table considers the entire project as a whole. However, when impact categorization of the individual schemes / sub-projects will be carried out, the impacts are likely to remain minor in almost all cases. It is also to be noted that the categorization in the above table is pre-mitigation. The residual impacts after mitigations will become insignificant.

### **7.3. Potential Positive Impacts**

The proposed project is focused on restoration of the forest ecosystems of Sindh province to improve livelihoods of the communities and biodiversity. The project will provide green jobs to and livelihood opportunities. The project will overall result in accrued environmental and social benefits, among them is improved land and water management which will increase water availability, control run-off and erosion, improve land management and consequently enhance incomes at household levels which will significantly reduce poverty, particularly in forests areas of Sindh province.



### **7.3.1. Carbon sequestration**

Forests sequester (or absorb) and store carbon dioxide from the atmosphere, helping reduce greenhouse gas emissions and project will enhance the forest cover in the Sindh province which will result in carbon sequestration. It will contribute to the sinking of atmospheric carbon dioxide through photosynthesis on a large scale as a result of afforestation and reforestation.

### **7.3.2. Regulation of stream and river flows**

Sustainable forest management ensures that at any given time, most of the forest area is under tree cover of various ages. Enrichment planting and reforestation with indigenous species will improve the soil structure thereby increasing infiltration and reducing runoff. This will reduce the sporadic stream flow that often results to downstream flooding.

### **7.3.3. Climate amelioration**

Afforestation and reforestation will increase the amount of moisture in the atmosphere and contribute project plantation sites of project to regulation of precipitation in the ecosystem through the process of evapotranspiration.

### **7.3.4. Improved soil productivity and conservation**

The barren lands are affected by various climatic factors e.g. heavy rains and flash flood and causes the soil degradation which reduces the soil productivity. The proposed project activities will improve the forest cover in the targeted areas which will result in improving soil conservation and productivity.

### **7.3.5. Foundation of Coastal Food Web**

Mangroves are vital biodiversity hotspots as they help to filter coastal waters and provide nutrient-rich habitats for a vast array of species in Sindh Coastal areas such birds, fish and reptiles. Similarly, Mangrove forests are important feeding grounds for thousands of species and support a diverse food web. It provides shelter, nesting and feeding grounds to large variety of coastal biodiversity and the project will have positive impacts by restoring and enhancing the mangrove forest cover.

### **7.3.6. Enhanced biodiversity**

Increase in forest cover due to the project in the target areas will provide suitable environment for local flora and fauna and will flourish. Plants provide shelter, feeding, nesting and breeding place for the birds and animals found in the local ecosystem.

### **7.3.7. Improved water quality and quantity**

Afforestation and reforestation will increase forest cover that is expected to reduce soil erosion and therefore reduce sedimentation of rivers and water bodies. The quantity of water available for use is expected to increase by improving the conservation functions of water catchments.

### 7.3.8. Increased forest cover

Afforestation and reforestation activities are expected to restore the forest area of 5500 ha through planting and additional 75,000 ha through protection for natural regeneration. The planting activities will contribute to an increase of 3.7% of gazetted forest cover in the ecosystem, while protection for natural regeneration will contribute to additional cover.

### 7.3.9. Green Jobs Creation and Livelihood Improvement

The project is spanned over two years and Negahban will get jobs in project for 6 years in this way projects is creating green jobs and economic activities in the project areas. The female nursery holders can get livelihood by selling the seeds and sapling to the forest department.

## 7.4. Potential Negative Impacts

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Minor civil works will be carried out for renovation of existing Kundah Forest Rest house building and installation of water pumps with portable solar panels and the impacts are anticipated to be of low magnitude. The anticipated impacts due to minor civil works are limited to construction sites and phase only. The proposed interventions are unlikely to cause any material greenhouse gas (GHG) emissions.

Plantation activities are anticipated to have site specific minor impacts of soil disturbance, waste generation and health and safety. Similarly, nurseries raising at communal and department level will require site preparation and fencing through barbed wire for protection and nourishment.

Project interventions will not require to establish construction and labor camps and there are no chances for liquid and gaseous hazardous emissions. Labors would be mostly from local areas and from the community to avoid social issues and provide income opportunities. Heavy vehicular movement is not anticipated for the project activities and no chances of damage to local roads are envisaged.

The proposed interventions will not require land acquisition and resettlement due to the fact that land is owned by the forest department and free from encumbrances. Some minor impacts of social conflict and trespassing is anticipated during implementation of project activities and will be managed by applying the mitigation measures proposed in this section. Further detail on the project anticipated impacts is given in the **Table 7.3**.

### 7.4.1. Potential Negative environmental impacts & Mitigation Measures

The project interventions in the targeted ecosystems will contribute to minor negative environmental impacts as outlined.

#### 7.4.1.1. Increased water use

Nursery operations to raise seedlings for afforestation and reforestation will require the use of additional water resources. The target seedling/saplings production and nourishment both in nurseries and plantation sites will increase the water use. Minor civil works will be required for renovation and construction of water pump chamber room and will require water.

#### Mitigation Measures:

- Water exploration will be avoided in water scarce areas

- Energy efficient water system will be used on working sites
- Sustainable water use will be ensured on working sites
- The nurse operators will be given water management and conservations trainings on periodic basis to reduce the chances of water losses
- Where possible, rain water harvesting will be practiced and sustainable water use will be ensured
- Quantify the water use for before initiating the works

#### **7.4.1.2. Landscape/Soil/ clearance/excavation**

The soil required for plant nurseries establishment will be sourced from nearby areas resulting in localized soil disturbance. In addition, land preparation and digging of planting holes will also cause minor level soil disturbance. Minor level excavation will be carried out for water pumping chamber rooms in rangeland ecosystem interventions.

#### **Mitigation Measures**

- Removal of vegetation and trees will be avoided to the extent possible
- Visual Inspection will be carried out for land contamination and dust emissions
- Technical design measures will be incorporated to minimize unnecessary removal of trees and vegetative cover and excavation
- Waste will not be disposed in open dump sites or placed in open soil surface
- Invasive or exotic species through plantation will not be introduced.
- No subproject/ activity will be located in or near environmentally or socially sensitive areas
- The excavated material will be reused to the extent possible
- Waste/barren land sites will be selected for the plantation activity
- Agricultural land will not be used/converted into forest land

#### **7.4.1.3. Water Quality**

Minor civil works required for renovation of exiting Kundah Forest rest house building and construction of chamber rooms for water pump will have risk to local water quality due to improper waste, effluents management and poor sanitation on working sites.

- **Mitigation Measures**
- Waste will be safely disposed of in demarcated waste disposal sites to avoid any impact on the drinking water sources, irrigation channels, and natural drainage
- All material storage areas will be properly marked to highlight their contents with a concrete pad underneath to prevent water contamination in case of leaks or spills
- Excess material will not be stored at sites
- Spill kits will be used clean the spillage (in case any)
- Drip trays will be used during fueling of vehicles
- The cement and water used for curing will not be discharged directly into water courses and drainage inlet will be ensured that there will be no standing water at the working site
- The labor workforce shall be trained in the storage and handling of waste materials encountered during project activities

#### **7.4.1.4. Air Quality**

Minor civil works required for renovation of exiting building and construction of chamber rooms for water pump will have adverse impacts on local ambient air quality due to excavation, improper waste and effluents management and poor sanitation on working sites.

#### **Mitigation Measures**

- Soil and temporary spoil piles will be covered or sprayed with water
- Tractor loads will be covered with suitable material
- Unnecessary movement of vehicles will be avoided
- Open burning of solid waste shall be strictly prohibited
- Raw materials such as cement, gravels and sand will be kept under sheet covers

- All equipment/vehicles used in construction will be regularly serviced to minimize emissions
- Necessary PPEs will be provided to prevent and mitigate exposure to dust

#### **7.4.1.5. Increased risk of pollution from waste generation**

Project interventions will result in waste generation at nurseries and plantation sites. The polythene bags used for plants raising will result in solid waste and biodegradable waste in the form of plants parts. Similarly, minor level excavation and civil works will be carried out for water pumping chamber rooms and will have risks of pollution due to waste generation.

##### **Mitigation Measure:**

- For general solid waste, site-specific waste management options will be implemented including:
- Provision of temporary refuse bins at all sites
- Regular collection and environmentally safe disposal of waste
- Recycling as far as possible
- A high emphasis will be placed on good housekeeping practices
- Open dumping of waste will not be allowed
- End of life solar panels will be stored at designated location
- Waste solar panels will be handed over to approved vendors

#### **7.4.1.6. Impacts on flora and fauna**

Interventions will be carried out in various ecosystems in the project area and will have interaction with site specific local flora and will be risk. Minor civil works and excavation will be carried out for water pumping chamber rooms and will have impacts on flora and fauna.

##### **Mitigation Measure:**

- Indigenous species will be planted and exotic will be prohibited
- Local forests will be conserved and cutting of trees will be avoided
- LPG will be used if required on working site as energy source
- Hunting will be prohibited on working sites, nests of birds and animals will be protected
- The construction works will be limited within the designated sites allocated to the contractor.
- If bird nests are located/detected within the intervention site, then those areas will be avoided.
- Awareness session will be conducted with workers and locals on conservation and ecological importance of indigenous species

#### **7.4.1.7. Occupational Health and Safety (OHS)**

Project interventions will involve workers with variety of physical works for nurseries development, transportation and plantation with land digging tools. Minor civil works required for renovation of building and construction of chamber room for water pumps will have OHS related risks.

##### **Mitigation Measure:**

- Occupational health and safety plan will be prepared and submitted to supervision consultants for approval.
- First aid kits will be kept at project sites and workers will be provided first aid training
- In case of an incident involving injury, the injured will be taken to the nearest medical facility after providing necessary first aid
- Provision of clean drinking water will be ensured for the project workers
- Workers with inadequate training will not be allowed to operate vehicle/machinery
- Provision of appropriate and high-quality personal protective equipment (PPE) to workers such as gloves, vests, safety shoes, masks etc.
- Training to the workers will be provided in the use of PPE and safety measures while working on project sites

- The contractor shall not hire children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks.
- Occupational accidents, disease and incidents will be recorded and reported.

#### **7.4.1.8. Risk of Covid-19 and Dengue**

Covid-19 and dengue related risks are envisaged among the workers on working sites due to interaction of project staff from different areas and due to possible presence of mosquitos in the project flood prone areas. The risk of Covid-19 and dengue will be applicable to all project interventions including the nurseries development, plantation, renovation of existing building and construction of chamber rooms for water pumps.

#### **Mitigation Measure:**

- Government directives and SOPs regarding COVID-19 management (in accordance with the WHO and World Bank guidelines) will be followed
- Only fully vaccinated people will be allowed to work in project
- Workers with symptoms of Covid-19 will not be allowed to work at site
- Mandatory social distancing requirements as prescribed by the NIH Guidelines for Preparedness of Workplaces for COVID-19 in Pakistan will be followed
- It will be ensured that there will be no standing water in or close to the working areas.
- Workers will use mosquito nets and repellents
- Good housekeeping practices will be adopted
- Daily site inspection will be carried out
- Mandatory requirements for the use of PPE for all project staff will be followed
- Hand wash facilities and alcohol-based sanitizer to all project staff will be provided

## **7.5. Social Impact Assessment:**

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### **7.5.1. Land and Land use**

The project shall be executed on the state forest lands under the administrative control of Sindh Forest Department. Hence, no land acquisition, resettlement and/or displacement of people will result. Furthermore, there will be no harm to people due to implementation of this project rather the project itself is aimed at betterment of socio-economic and health condition of the people.

Planned and anticipated sub-projects, their land and social impacts considerations are discussed below:

### **7.5.2. Availability and Use of Forest Land**

Sindh has a massive potential for growing forests as total forest land under the control of Forest & Wildlife Department is 3.426 million acres, which is about 10% of Sindh's total surface area. The project envisages reforesting 34,500 acres of blank potential area in riverine (30,000 acres) & inland forests (4,500 acres) in all over Sindh province, for linear plantation, mangroves forestation and social forestation.

### **7.5.3. Screening of Land Acquisition and Resettlement**

Till the date no resettlement and land acquisition is involved. On the basis of initial screening, the project is categorized as **C** from land use perspective.

The status of land ownership will be further screened at initial stage of each sub-project. It is fundamental principal that no private land will be acquired and no community will be resettled. In case of informal settler or encroaches on state land, the piece of land will be excluded from the project area and an alternative land will be selected. SFD will also ensure that any land selected for project activities has not undergone Anti Encroachment Drive during the past 5 years, and a certificate in this respect will be acquired.

### **7.5.4. Restoration of Mangroves Ecosystem in the Indus delta**

Sindh Forest Department has successfully rehabilitated more than 300,000 acres of degraded mangrove areas in the Indus delta with community watch and ward system during last 10 years. The project will help to sustain the benefits of mangrove ecosystem through rehabilitation, replanting and maintenance with the help and support of local people to create environmental resilience and to improve socio-economic conditions of local people.

### **7.5.5. Restoring Rangeland Productivity on sustained basis for economic and livelihood benefits**

Properly managed rangelands can provide food security to alleviate poverty of millions of people. The project area surrounding communities will be engaged in project activities to enhance their livelihood. Grazing pasture will be provided to the communities to graze their domestic animals and community Traditional Right of Way from the forest ways will not be stopped.

#### **7.5.6. Restoring Urban Ecosystem**

Under this sub project there will be establishment of avenue plantation over 400 av. km, establishment of canal side plantation over 500 av. km, urban forestry plantation shall be established with 0.500 million plants and establishment/raising of nurseries.

#### **7.5.7. Resettlement and Encroachment Mitigation Measure**

Urban forestry is the planting of trees on publicly owned blank spaces, roads, streets, parks, offices and privately owned backyards and other available areas. Thus, no resettlement and land acquisition is involved as all the intervention are going to be conducted on state lands and encroachments and populations will be avoided.

Roadside tree plantation provides shade and comfort to the travelers in the scorching heat, protect the road against extreme weather conditions and add stability to the side approaches.

### **7.6. Indigenous Peoples**

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In Sindh generally and project area particularly, there is no such indigenous community living. In Pakistan, the only recognized Indigenous Peoples are the Kalash living in District Chitral of KP province. Kalash are recognized indigenous peoples due to their distinct language, folklore, and polytheistic religion; differentiating them from the other communities in the area.



## 8. Environmental and Social Management and Monitoring Plan (ESMMP)

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### 8.1. Overview

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The purpose of environmental and social management and monitoring plan (ESMMP) for rehabilitation works is to ensure that the identified measures have been adopted for protecting the environment and social aspects and comply with national and provincial environmental legislation along with applicable operational policies of the WB. ESMMP will be complied on all working sites and construction environmental and social management plan (CESMP) will be prepared by the Contractor accordingly.

### 8.2. Institutional Arrangements

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#### 8.2.1. Management Responsibilities

The Project Director (PD) will have an overall responsibility for the environment and social development plans of the subproject's areas through his social and environment specialists. RRIMDU-PMU will be directly responsible for compliance of ESMP, screening of subproject through specific E&S checklists and their effective implementation, internal monitoring and progress reporting. Additionally, the environment and social safeguard specialists will have close coordination with EPA and other line departments to address their concerns regarding subproject interventions. Management responsibilities are detailed in the **Table 8.1**.

**Table 8.1: Project Implementation Framework Responsibilities**

S.N.	Position	Responsibilities
1	Project Director	PD will be overall responsible for monitoring the ESMP compliance throughout the project PD will ensure transparent and cost-effective monitoring PD can engage other specialists and/or firms to carry out external monitoring as third-party validation
2	Deputy Project Director	Coordinate with the communities, contractors and the district/divisional level forest department officials to ensure the proper implementation of ESMP and mitigation measures proposed in the screening checklists on project sites
3	Environmental and Social Specialists	The Environmental specialist & Social specialist will be directly responsible for screening of identified activities, implementation of checklist/ESMP, internal monitoring, capacity building and progress reporting
4	Division Coordination Committee (DCC)	Supervision of project interventions for compliance of checklist and ESMP through identified and trained ES focal person Inform the ES specialist for any conflict and safeguards related matters



### 8.2.2. Project Implementation Unit (PIU)

Project Implementation Unit (PIU) will be responsible for implementation of ESMP and filling the E&S checklist throughout project period. PIU would also support community participation, consultations and other social activities from subproject identification to completion stage. The established under PIU will be supported by environmental and social safeguard specialists in the ESMP implementation. The effective implementation, internal monitoring and progress reporting will also be ensured through PMU. The PMU is supported by districts forest officers.

- Project Implementation Unit (PIU) has been established in Sindh Forest Department headed by the Project Director.
- Under direct supervision of Project Director and supported by a full time ESMP focal person responsible for ESMP compliance, monitoring, reporting, managing issues and grievances regarding social and environment.
- PIU will develop site specific ESMPs preparation and supervision of contractors for best compliance at all working sites.
- ES checklist filling is the responsibility of DFO. DFO will be trained as master trainer by PIU ES specialist. RFO and block officer will be trained by DFO.
- RFO and Block officer will apply ES checklist in the field for every site and DFO review and cross check.
- Ultimate responsibility of data in ES checklist will be on DFO.

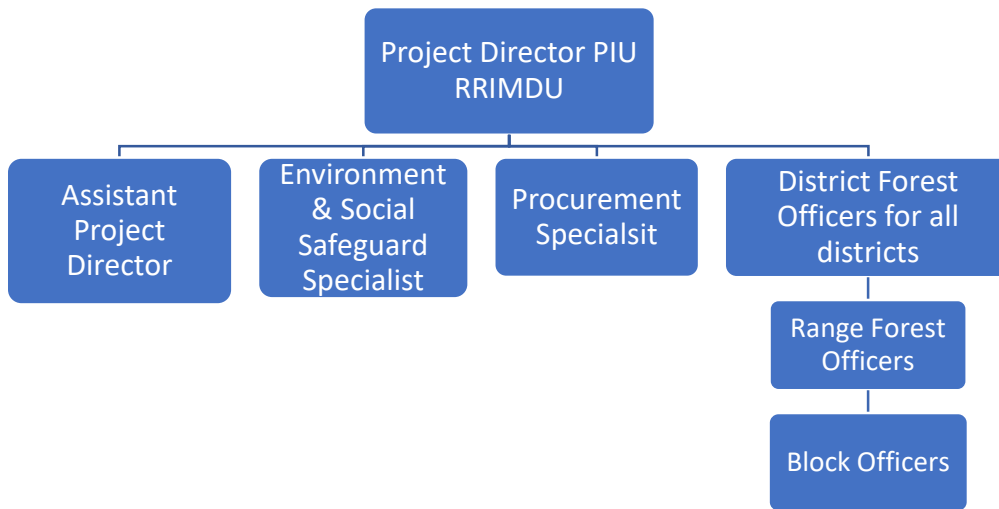
### 8.2.3. E&S Procedures for Subprojects

The step-by-step procedure to be followed during the environmental and social assessment of the proposed subprojects, from screening to the preparation of Checklist/ESMP and their implementation, are given in the following Table 8.2.

**Table 8.2: E&S Procedures for Subprojects**

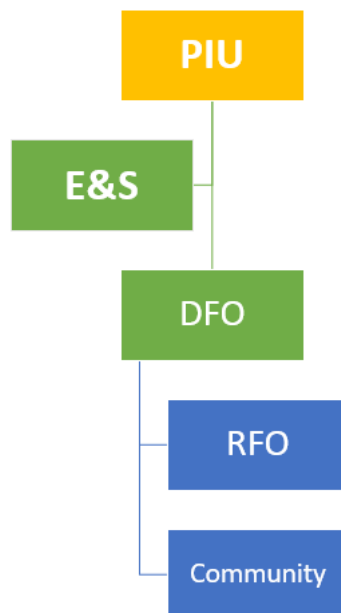
Step	Activity	Description of the Activity	Timing/Status	Responsibility
1	Assessment, preparation of Screening Checklist & ESMP	Data collection for baseline of environment and socioeconomic Assessment of impacts and their significance Preparation of site-specific checklist and ESMP	During project inception phase and preparation of E&S studies	PIU with support of NDRMF safeguards team
2	Consultations and Disclosure	Consultations with the stakeholders (including affected communities) prior to E&S studies and after completion of checklist/ESMP Disclosure of ES documents	During inception phase after the approval of checklist/ESMP from the WB	PIU with support of NDRMF safeguards team

		(checklist/ESMP) on the NDRMF and WB website		
3	Submission of Checklist/ESMP for Sindh EPA and WB clearance	Submission of checklist/ESMP documents along regulatory requirement of Sind EPA	After Completion of Checklist/ESMP prior to start of project activities	PIU will coordinate the approval process and inform the NDRMF
4	Environmental and social specifications for Bidding Documents	In case of minor civil works preparation of environmental and social specifications for bidding documents, including preparation of BOQs and inclusion of ESMP in the bidding documents. In case of plantation activities through community training and awareness of community workers on the safeguards	Prior to bidding and commence of civil works and plantation activities	E&S Staff of PIUs, in consultation and advise of NDRMF E&S staff, will review and approve the bidding documents and community partnership.
5	Implementation of checklist/ESMP	Contractors will develop site specific construction-ESMPs and OHS Plans and will implement them District forest officer will ensure community training sessions on the implementation of checklist requirement of ES Regular compliance monitoring and reporting by the Construction supervision consultants and PIUs and DFOs	During Construction and plantation activities on project sites	E&S staff of PIU will review and approve the C-ESMP and OHS Plan. ESHS Staff of Contractor will implement the plans. E&S staff of PIU will supervise the implementation of these plans and provide regular reporting to NDRMF E&S Staff.



*Figure 8.1. Project Implementation Unit Organogram*

**ORGANOGRAM OF ENVIRONMENTAL AND SOCIAL SAFEGUARD  
 IMPLIMENTATION & REPORTING FOR "Restoration of Riverine, Inland,  
 Mangroves, Dry-Land & Urban Ecosystem of Sindh Province"**



*Figure 8.2. E&S Implementation Unit at District Level*

### **8.3. Impacts Mitigation Monitoring Plan**

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Mitigation measures are proposed in the ESMP to minimize the adverse environmental and social impacts. In case of minor construction activities, project construction contractor will be responsible for adopting proposed mitigation measures in close coordination with environment and social safeguard specialist (ES) placed at PIU of SFD. However, in case of plantation and nurseries development activities SFD safeguards specialist will be responsible for compliance of the site-specific ES requirements.

Monitoring of mitigation plan is an important notation during construction and implementation phase of the project, which ensures that all the identified mitigation measures are implemented in an effective and timely manner. In-order to monitor the implementation of mitigation plan E&S safeguard specialist of SFD will conduct field visits on regular basis and will report the progress. Mitigation measures identified are proposed against each project interventions with indicator, monitoring frequency and responsibility in the below given **Table 8.3**.



**Table 8.3: Environmental and Social Management & Monitoring Plan (ESMMP)**

Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
<b>Preconstruction Phase</b>						
Project activities include afforestation and reforestation on the available barren lands in target districts of Sindh province which are green in nature and will not have any design phase impacts.						
Minor civil works of existing building renovation, construction of chamber rooms for water pumps, solar panels, nursery raising and plantation	Landscape/Soil / Vegetation Clearance	<ul style="list-style-type: none"> <li>• Removal of vegetation and trees will be avoided to the extent possible</li> <li>• Visual Inspection will be carried out for land contamination and dust emissions.</li> <li>• Technical design measures will be incorporated to minimize unnecessary removal of trees and vegetative cover.</li> <li>• Waste will not be disposed in open dump sites or placed in open soil surface.</li> <li>• Do not introduce invasive or exotic species through plantation.</li> <li>• No subproject/ activity will be located in or</li> </ul>	<ul style="list-style-type: none"> <li>• Covered disposal containers placed at camp</li> <li>• Designated disposal pits available</li> <li>• Visual inspections for existing vegetation</li> <li>• Land fill site if any declared for waste dumping.</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation through locals</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>

Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<p>near environmentally sensitive areas</p> <ul style="list-style-type: none"> <li>• The excavated material will be reused to the extent possible</li> <li>• Waste/barren land sites will be selected for the plantation activity</li> <li>• Agricultural land will not be used/converted into forest land</li> </ul>				
	Increase in water use	<ul style="list-style-type: none"> <li>• Quantify the water use for before initiating the works</li> <li>• Water exploration will be avoided in water scarce areas</li> <li>• Energy efficient water system will be used on working sites</li> <li>• Sustainable water use will be ensured on working sites</li> <li>• The nursey operators will be given water management and conservations trainings on periodic basis to reduce the</li> </ul>	<ul style="list-style-type: none"> <li>• Conflict on water</li> <li>• Complaints for the community on water shortage</li> </ul>	<ul style="list-style-type: none"> <li>• Biweekly Monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<p>chances of water losses</p> <ul style="list-style-type: none"> <li>• Where possible, rain water harvesting will be practiced and sustainable water will be ensured</li> <li>• Open dumping of waste will not be allowed</li> </ul>				
	Water Quality	<ul style="list-style-type: none"> <li>• Waste will be safely disposed of in demarcated waste disposal sites to avoid any impact on the drinking water sources, irrigation channels, and natural drainage</li> <li>• All fuel storage will be properly marked to highlight their contents with a concrete pad underneath to prevent water contamination in case of leaks or spills</li> <li>• Excess material will not be stored at sites</li> </ul>	<ul style="list-style-type: none"> <li>• Number of cases of water borne diseases</li> <li>Complaints from the community</li> </ul>	<ul style="list-style-type: none"> <li>• Daily visual inspection</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<ul style="list-style-type: none"> <li>• Spill kits will be used clean the spillage (in case any)</li> <li>• Drip trays will be used during fueling of vehicles</li> <li>• The cement and water used for curing will not be discharged directly into water courses and drainage inlets.</li> <li>• It will be ensured that there will be no standing water at the working site</li> <li>• The labor workforce shall be trained in the storage and handling of waste materials encountered during project activities</li> </ul>				
	Air Quality	<ul style="list-style-type: none"> <li>• Soil and temporary spoil piles will be covered or sprayed with water</li> <li>• Tractor loads will be covered with any suitable material</li> <li>• Unnecessary movement of vehicles will be avoided</li> </ul>	<ul style="list-style-type: none"> <li>• Observation of dust on working sites</li> <li>• Dumping of loose material on site</li> <li>• Uncovered material on carriage vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<ul style="list-style-type: none"> <li>• Open burning of solid waste shall be strictly prohibited</li> <li>• Raw materials such as cement, gravels and sand will be kept under sheet covers</li> <li>• All equipment/vehicles used in construction will be regularly serviced to minimize emissions</li> <li>• Necessary PPEs will be provided to prevent and mitigate exposure to dust</li> </ul>				
	Increased risk of pollution from waste generation	<p>For general solid waste, site-specific waste management options will be implemented including:</p> <ul style="list-style-type: none"> <li>• Provision of temporary refuse bins at all sites</li> <li>• Regular collection and environmentally safe disposal of waste</li> <li>• End of life solar panels will be stored at designated location</li> </ul>	<ul style="list-style-type: none"> <li>• Waste collection points/bins availability</li> <li>• Disposal of waste at designated sites</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<ul style="list-style-type: none"> <li>• Waste solar panels will be handed over to approved vendors</li> <li>• Recycling as far as possible</li> <li>• A high emphasis will be placed on good housekeeping practices</li> </ul>				
	Impact on Flora & Fauna	<ul style="list-style-type: none"> <li>• Indigenous species will be planted and exotic will be prohibited</li> <li>• Local forests will be conserved and cutting will be avoided</li> <li>• LGP will be used if required on working site as energy source</li> <li>• Hunting will be prohibited on working sites, nests of birds and animals will be protected</li> <li>• The construction works will be limited within the designated sites allocated to the contractor.</li> </ul>	<ul style="list-style-type: none"> <li>• Physical observations</li> <li>• Cases of hunting by workers</li> <li>• Use of local forest as fuel on sites</li> </ul>	<ul style="list-style-type: none"> <li>• Daily visual inspections</li> <li>• Weekly, Monthly and Quarterly depending upon the duration of works on site</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>

Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<ul style="list-style-type: none"> <li>• If bird nests are located/detected within the intervention site embankments, then those areas will be avoided.</li> <li>• Awareness session will be conducted with workers and locals on conservation and ecological importance of indigenous species</li> </ul>				
	Occupational Health and Safety (OHS)	<ul style="list-style-type: none"> <li>• Occupational health and safety plan will be prepared and submitted to supervision consultants for approval.</li> <li>• First aid kits will be kept at project sites and workers will be provided first aid training</li> <li>• In case of an incident involving injury, the injured will be taken to the nearest medical facility after providing necessary first aid</li> <li>• Provision of clean drinking water will be</li> </ul>	<ul style="list-style-type: none"> <li>• Status of PPEs</li> <li>• Incident status</li> </ul>	<ul style="list-style-type: none"> <li>• Daily inspections</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<p>ensured for the project workers</p> <ul style="list-style-type: none"> <li>Workers with inadequate training will not be allowed to operate vehicle/machinery</li> <li>Appropriate and high quality Personal Protective Equipment (PPE) will be provided to workers such as gloves, vests, safety shoes, masks etc.</li> <li>Workers will be trained in the use of PPE and safety measures while working on project sites</li> <li>The contractor shall not hire children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks.</li> <li>Occupational accidents, disease and incidents will be recorded and reported.</li> </ul>				



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
	Risk of Covid & Dengue	<ul style="list-style-type: none"> <li>• Government directives and SOPs regarding COVID management (in accordance with the WHO and World Bank guidelines) will be followed</li> <li>• Only fully vaccinated people will be allowed to work in project</li> <li>• Mandatory social distancing requirements as prescribed by the NIH Guidelines for Preparedness of Workplaces for COVID-19 in Pakistan will be followed</li> <li>• There should be no standing water in or close to the working areas.</li> <li>• Workers will use mosquito nets and repellents</li> <li>• Workers with symptoms of Covid-19 will not be allowed to work at site</li> </ul>	<ul style="list-style-type: none"> <li>• Use of mask and availability of sanitizers and mosquito repellent</li> <li>• Detection of positive cases</li> </ul>	<ul style="list-style-type: none"> <li>• Daily inspections</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor (safeguards focal person) in case of civil work</li> <li>• Community focal person in case of plantation</li> </ul>	<ul style="list-style-type: none"> <li>• DFO</li> <li>• PIU safeguards specialist</li> </ul>



Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
		<ul style="list-style-type: none"> <li>• Good housekeeping practices will be adopted</li> <li>• Daily site inspection will be carried out</li> <li>• Mandatory requirements for the use of PPE for all project staff will be followed</li> <li>• Hand wash facilities and alcohol-based sanitizer to all project staff will be provided</li> </ul>				
<b>Land &amp; Social Impacts</b>						
Pre Project Activities	Land use/Land ownership  Screening of Resettlement impact	<ul style="list-style-type: none"> <li>• Verification of revenue record</li> <li>• Land ownership status</li> <li>• Land use/Type</li> <li>• Availability of Site verification report</li> </ul>	<ul style="list-style-type: none"> <li>• Land record availability</li> <li>• Public consultation on land use</li> <li>• Review of site report</li> <li>• Field survey</li> <li>• Site visit</li> </ul>	<ul style="list-style-type: none"> <li>• Before start of the Project</li> <li>• Before start of site specific activity</li> <li>• Pre Project</li> <li>• Before start of work on site/s</li> </ul>	<ul style="list-style-type: none"> <li>• Project Director</li> <li>• E&amp; S Specialist PIU</li> </ul>	<ul style="list-style-type: none"> <li>• Project Director</li> <li>• E&amp; S Specialist PIU</li> <li>• NDRMF Social Safeguards Specialist</li> </ul>
During Project Execution	Community Consultation  Livelihood improvement	<ul style="list-style-type: none"> <li>• Availability of Public consultation record.</li> <li>• Filling of Screening checklist</li> </ul>	<ul style="list-style-type: none"> <li>• Review of reports and cross check with communities during field visits</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly basis</li> </ul>	<ul style="list-style-type: none"> <li>• Project Director</li> <li>• E&amp; S Specialist PIU</li> </ul>	<ul style="list-style-type: none"> <li>• Project Director</li> <li>• E&amp; S Specialist PIU</li> </ul>

Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
Information Disclosure Livelihood training GRM Involvement of female and marginal communities	Provision of labor works Redress of grievances Skill development of community members Participation of women and marginal communities in project activities	<ul style="list-style-type: none"> <li>• Provision of livelihood and labor work</li> <li>• Availability of GRM at site and at head office</li> <li>• Cross check about the community involvement in project activities through field visit</li> <li>• Livelihood provision for females and marginal communities</li> </ul>	<ul style="list-style-type: none"> <li>• Cross check of community in labor work through field visit</li> <li>• GRM/ register/ record verification</li> <li>• Community consultation by the monitoring team</li> <li>• Record verification during field visit</li> <li>• Community consultation by the monitoring team</li> <li>• Record verification during field visit</li> </ul>			NDRMF Social Safeguards Specialist
Post Project	Improvement of Socio-economic conditions Skill development	<ul style="list-style-type: none"> <li>• Community Engagement in project activities</li> <li>• Training on skill development</li> <li>• Development of natural resources.</li> <li>• Positive impacts of the community</li> </ul>	<ul style="list-style-type: none"> <li>• Post project Socio economic survey and report</li> <li>• Evaluation of skill development through community consultation</li> </ul>	<ul style="list-style-type: none"> <li>• On completion of the Project activity at site</li> <li>• Completion of the Project</li> </ul>	<ul style="list-style-type: none"> <li>• Project Director</li> <li>• Deputy Project Director E&amp;S Specialist PIU</li> </ul>	<ul style="list-style-type: none"> <li>• NDRMF</li> <li>• The WB</li> </ul>

Activity	Impact	Mitigation Measure	Monitoring Indicator	Monitoring Frequency	Responsibility	
					Execution	Supervision & Monitoring
	<p>Availability of more natural resources</p> <p>Prosperity and no grievances from the project</p>		<ul style="list-style-type: none"> <li>• Survey of natural resources</li> <li>• Impact evaluation of project activities</li> </ul>			





## 8.4. Monitoring and Reporting responsibilities

### 8.4.1. Internal Monitoring

Checklist/ESMP monitoring will be carried out to ensure that the mitigation plans are regularly and effectively implemented. It will be carried out at three levels (Table 8.4) the PIU level, district and field level. At the PIU level, the environment and social specialists, will carry out checklist/ESMP monitoring to ensure that the mitigation plans are being effectively implemented, and will conduct field visits on a regular basis. At district level focal person of the district/divisional forest officer will conduct monitoring ES aspects as stipulated in the site-specific checklist and ESMP through gender inclusive active engagement of local community members. In case of civil works by the Contractor and plantation activities by communities, the focal persons nominated will carry out the field level monitoring.

**Table 8.4: Monitoring Levels and Responsibility**

Level	Responsibility	Monitoring Tasks
<b>Internal Monitoring</b>		
PIU Level	Environment and social specialists of PIU	ESMP monitoring to ensure that the mitigation plans are being effectively implemented, and will conduct field visits on a regular basis
District Level	Divisional level forest officer/ES focal persons	ESMP implementation monitoring and evaluation Gender inclusive community consultations on all working sites
Field Level	Community and Contractor ES focal persons	Monitoring of site-specific measures proposed in the checklist/ESMP

### 8.4.2. Third Party Validation (TPV)

NDRMF will engage Independent Environmental and Social Monitoring Consultant (IESMC) (specialists/firms) as third party to conduct external monitoring as third-party validation throughout the project execution. The IESMC will be contracted before commencement of any construction activities. Its scope includes but not limited to:

- Review the implementation status of mitigation measures in ESMPs, Checklists, and the related documentation
- Review the environmental and social monitoring regime as specified in the ESMF and site-specific checklists and ESMP
- Review reports of internal monitoring carried out at the PIU for the proposed project and
- Identify non-compliances/gaps, and recommend changes, to improve compliance and monitoring mechanisms, if any. This will include providing feedback to improve integration of ESMF and checklist/ESMP in the overall project implementation.

### 8.4.3. Reporting

The reporting mechanism is explained in **Table 8.5**:

**Table. 8.5 Monitoring Mechanism**

Report	Contents	Prepared by	Submitted to
Monthly ESMP Compliance Monitoring Report	<p>Compliance against physical progress</p> <p>Non compliances observation and corrective action taken</p> <p>Incident/ accident reporting</p> <p>Grievance redressal status</p>	E&S focal person of Contractor	DFO of respective district
Monthly ESMP Compliance Monitoring Report	<p>Compliance against physical progress</p> <p>Non compliances observation and corrective action</p> <p>Incident/ accident reporting</p> <p>Grievance redressal status</p>	ES Specialist PIU	PD PIU
Quarterly Safeguards Compliance Monitoring Report	<p>Compliance against the physical progress</p> <p>Corrective actions taken</p> <p>Status of noncompliance from the previous &amp; current reporting period</p> <p>Incident/ accident reporting</p> <p>Grievance redressal status</p> <p>Plan for next reporting quarter</p> <p>Capacity building</p>	ES Specialist PIU	PD PIU & further sharing with NDRMF and WB

Semiannual Safeguards Compliance Monitoring Report	Compliance against the physical progress Corrective actions taken Status of noncompliance from the previous & current reporting period Incident/ accident reporting Grievance redressal status Capacity building Plan for next reporting quarter	ES Specialist PIU	PD PIU & further sharing with NDRMF and WB
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### 8.5. Inclusion of ESMP in Bidding / Contract Documents

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The present ESMP will be included in the bidding / contract documents and its implementation will be a contractual binding for the contractor's/sub-contractors in case of minor civil works and community groups involved for nursery raising and plantation on sites.

### 8.6. Capacity building

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Under this component, forest officers/officials, having degree in Forestry, I.T and GIS, will be equipped with on-job training in new concepts and techniques through training courses within the country. Various forest conservation and protection projects are implemented with people centered and community engagement approaches. All such approaches could make progress, but a greater focus on the outreach and conservation awareness that builds on and integrates into these efforts has the potential to further reduce threats to biodiversity in protected areas. Outreach and conservation awareness will target and engage rural populations living in and around forest areas to build positive attitudes and behaviours to reduce threats to biodiversity. Forest officials, will be equipped with on-job training in modern Forestry & Landscaping techniques like Ecosystem Services, Forest Inventory and GIS based monitoring. These training will improve the service delivery of the department and department will better serve the society and the communities.

A successful implementation of Checklist/ESMP will also require comprehensive trainings and demonstrations for successful implementation and below given plan reflects the E&S aspects to be covered along with the target audience.

Environmental specialist and social specialist at the PIU will execute the training programs on each working site Training reports will be developed for the training session conducted during project implementation.

**Table 8.6: Plan for ES Training**

<b>Description</b>	<b>Aspects to be Covered</b>	<b>Participants</b>	<b>Responsibility</b>	<b>Frequency</b>
ESMP	Objectives and use of ESMP Legal requirement of E&S Management of E&S issues and mitigation Monitoring mechanism Reporting mechanism GRM	District level forest officer	PIU E&S Staff	At the start of project activities at district level
Nurseries & plantation techniques	Nursery site selection Specie selection Plantation techniques GRM Monitoring	Community involved in plantation activities	DFO	At the start of project activities at district level
Construction related E&S issues	Management of waste, air and water quality at site OHS GRM	Contractor workers	Contractor E&S focal person	Monthly during construction works

## 8.7. Cost of ESMP Implementation

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The cost estimates to implement ESMP is provided in Table 8.7 below. This cost will be included in the overall project cost.

**Table 8.7: Budget for ESMF Implementation**

Activity	Quantity	Amount PKR	Remarks
<b>Mitigation Measures</b>			
Provision of PPEs for construction	196	Rs. 1,666,000/-	Total project sites are 196 and Each set (Helmet, Vest, Shoes, Mask) = Rs.8,500/-
First Aid Box	196	Rs. 748,000/-	Rs. 4,000 x 196 ( one per site)
<b>Trainings</b>			
Environmental and social trainings	30	Rs. 4500,000/-	One-day session @ Rs. 150,000 per session district wise
<b>Total</b>		<b>Rs. 6914000/-</b>	

## **9. Grievance Redress Mechanism**

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### **9.1. Overview and Scope**

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The Grievance Redressal Mechanism proposed here spans the entire RRIMDU project implementation and will cater to both the directly and indirectly affected population. For the purpose of this ESMP, the scope of “grievance” is limited to any concerns related with the environmental, social and / or gender performance of the project. The Grievance Redressal Committee will undertake complaints that strictly fall into the environmental, social or gender categories, and not related to any other issues related to RRIMDU.

The PIU will serve as the secretariat for the main Grievance Redressal Committee that will be responsible for providing oversight on the entire GRM process at a strategic level and monitoring of complaints management.

It is to be noted that there will be additional GRMs for Labor and for GBV/SEA and the following section provides details for Project specific GRM. The process is relevant for construction related grievances. It also covers grievances related to other project activities such as trainings, selection of project sites for plantation.

### **9.2. Objectives of Grievance Redress Mechanism**

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The grievance redressal mechanism (GRM) will be consistent with the requirements of the World Bank environmental and social standards to ensure mitigation of community concerns, risk management, and maximization of environmental and social benefits. The overall objective of the GRM is therefore to provide a robust system of procedures and processes that provides for transparent and rapid resolution of concerns and complaints identified at any level of the project. The GRM will be accessible to diverse members of the affected population and community at large, including women, senior citizens, students and other vulnerable groups. Culturally-appropriate communication mechanisms will be used at all project sites both to spread awareness regarding the GRM process as well as complaints management.

### **9.3. Communication & Awareness**

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The final processes and procedures for the GRM will be translated into local languages (Sindhi and Urdu) and disseminated at all project locations.

### **9.4. Records and Monitoring**

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PIU of the RRIMDU will maintain an electronic database that will provide a summary of complaints received and mitigations. PIU will also be responsible for uploading the actions and results for each grievance for each project location on a periodic basis to the Project website.

Apart from the electronic database that will be maintained at the PIU level, a manual register of all complaints and actions taken will be maintained by the Environmental and Social Focal Person at district forest offices.

## **9.5. Proposed Institutional Mechanisms**

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It is proposed to establish the following prior to commencing project implementation activities including pre-construction activities in case of minor civil works required for renovation of existing building and construction of chamber rooms for water pumps.

A complaint drop-box to be placed at each selected school site, to be checked and logged by GFPs on a weekly basis

Grievance Focal Points (GFPs), which will be the ambassador of change and educated stakeholders on each project site. Two GFPs (1 male and 1 female) will be selected for each sub-project locations and will be community members / teachers who are easily approached by the community

Public Complaints Register at the Taluka forest level office

A District Grievance Redress Committee (GRC-District) will be established for each district that will manage GRM aspects for all sub-project locations in each district including decisions to be taken, actions and monitoring of complaints resolution. The District Coordination Committee will steer the GRC functions at the district levels.

A Grievance Redress Committee (GRC-Central), responsible to oversee the overall function of the GRM at a strategic level including monthly review.

## **9.6. Grievance Focal Points (GFPs)**

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The GFPs will be literate people from each community at intervention sites that will assist and facilitate the community members in reporting grievances resulting from project activities.

## **9.7. Public Complaints Register**

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PIU will place a Public Complaints Register (PCR) in their offices at the Taluka levels. PIU and the local government bodies will issue public notices to inform the public within the project area of the Grievance Redress Mechanism.

The district level forest office will be responsible to receive, log, and resolve grievances. Given that the female community members have restricted mobility outside of their villages and homes, their complaints could be lodged through GFPs.

## **9.8. Grievance Redress Committee (GRC-District)**

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A Grievance Redress Committee will be notified under the project for all participating districts. The GRC-District will be chaired by the Deputy Commissioner (DC) for each district. The core members will from the local communities and forest department and representatives from any existing civil society organization. It will have the option of co-opting more than 06 core members. At least two women will be part of the core members of the GRC at district level.

- The GRC's phone number, fax, address, email address will be disseminated to the people through displays at the respective DC offices, and at all the project sites of target district. In case of civil works construction contractor will also display this information prominently at their site offices.
- The GRC will log complaint and date of receipt onto the complaint database and inform the E&S Staff at PIU level
- The GRC will instruct contractors and GFPs to refer any complaints that they have received directly to the GRC
- The GRC, with the contractors and GFPs, will investigate the complaint to determine its validity, and to assess whether the source of the problem is due to project activities, and identify appropriate corrective measures. If corrective measures are necessary, GRC, through the GFPs, will instruct the contractors to take necessary action

- The GRC will inform the Complainant of investigation results and the action taken
- The GRC will review the Contractors response on the identified mitigation measures, and the updated situation
- The GRC will undertake additional monitoring, as necessary, to verify as well as review that any valid reason for complaint does not recur

During the complaint investigation, the GRC should work together with the contractors and GFPs. If mitigation measures are identified in the investigation, the contractor will promptly carry out the mitigation. GFPs will ensure that the measures are carried out by the contractor and community representatives in plantation interventions.

### **9.9. Grievance Redress Committee (GRC-Central)**

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A GRC will also be established at the PiU level, to be notified by Project effectiveness date. The PD office will be the secretariat of the GRC. The GRC will function as an independent body that will regulate the grievance redress process and address grievances that were left unresolved at the GRC-District level or were scaled up. The central GRC will also have 06 core members, with an option to coopt more members if the need arises. It will comprise of safeguard specialist, SFD staff of PIU, concerned districts and senior members from civil society in project areas. At least two core members of the central GRC will be women. All efforts will be made to include more than two female members in the central GRC.

### **9.10. GRM Procedure**

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1. There will be GRM committee at every level and community representative preferably at least a female may be the member of each committee where possible.
2. The complaint log register will be maintained at every level from site to head office.
3. Grievance Redress Mechanism: DFO is responsible for setting up the Grievance Redress Mechanism in the field.
4. One window mechanism will be established at site. The procedure of complaint lodging process will be advertised and communicate to the communities through displaying of bill boards at site.
5. Members of GRC at every level may be in odd numbers so the chair can cost its decision vote.
6. The information about the GRM will available to the community at every level through banners and awareness campaign. Community must now how to complain and where to complain.
7. People/surrounding communities will be informed about the GRC and its role and responsibilities. An office of District Forest Officer, representing Project Implementation Unit, SFD will be established at each subproject site for implementation and monitoring of subproject activities and will be an easy approach to the local people. Address email and phone number of PD office will also be advertised on bill boards at site.
8. Firstly, the people will lodge their complaints to the local level GRC at site verbally or in written.
9. Minor and routine complaints will be resolved at local level by the field staff through informal mediation.
10. SFD field staff will redress community grievances. If grievances will not be resolved at site, then local level GRC will forward the District Forest officer with in the three days of receiving the complaint.
11. District Forest officer will take up the complaint immediately and summon the meeting of the GRC at his/her office within two days and taken action on it.
12. The complaint will be resolve with in the seven days and feedback will be provided to the complainant. If the complaint is not resolved or complainant is not satisfied, he/she may complain to Project level Grievance committee.
13. DFO will redress their grievances. If grievances do not resolve at DFO level then local level GRC will forward the case to the Project Level GRC to redress the grievances, which will resolve the grievances.



14. The complaint will be resolved with 15 days on receiving the complaints at PD Office and feedback will be provided to the complainant.
15. PD Office will inform the plaintiff within seven days after receiving the complaint and must resolve the complaint within 30 days.
16. Every complaint will be noted in the complaint register and logged of complained will be maintained and shared with NDRMF.
17. NDRMF PHCSP Team will be immediately take up the complaint and will approach to Project Authorities for its resolution.
18. PHCSP team will also maintain the complaint log and will follow up the complaint until it is resolved.
19. NDRMF has already established a complain receiving and resolving mechanism.
20. The complainant/Plaintiff may approach to NDRFM or the World Bank through E-mail.
21. If the grievance redress system fails to satisfy the complainants, they can further submit their case to the appropriate court of law / ombudsman court.

## ANNEX: 1 Area Statement

### I. Riverine & Inland Forest Ecosystem

#### a) Riverine Forest (reforestation through regeneration in inundated riverine areas)

Forest Division	Forest	Area (to be planted in acre)	GPS Coordinates
Afforestation Division Dadu	Kundah	100.00	N26,517044 E67,926737
	Ketilalia	100.00	N26,712858 E67,878376
	Kacho Sita	83.00	N27,003313 E67,987124
<b>Total Afforestation Division, Dadu</b>		<b>283.00</b>	
Afforestation Sub-Division, Jamshoro	Manjhand	100.00	N 25'53"09 E 68'16"02
	Unerpur	75.00	N 25'37"10 E 68'23"56
	Kundah	75.00	N 26'28"38" E67'56"08"
	Karo Khaho	82.00	N 25'15"33 E 68'19"02
		<b>332.00</b>	
Afforestation Division, Matiari	Sekhat	50.00	N.25.642287 E.68.464374
	Khebrani	250.00	N.25.679315 E.68.474698
	Matiari	250.00	N.25° 35.879 E.68° 24.486
	Murid Rais	300.00	N.25.703917 E.68.464244
	Kacho Khanote	300.00	N.25.722218 E.68.360619
	Keti Butho	250.00	N.25.994978 E.68.316878
	Rano	350.00	N.25.95977 E.68.301636

	Nooralabad	400.00	N.25.907737 E.68.310654
	Noor Ketī	450.00	N.25° 57.347 E.68° 19.534
	Kari	300.00	N.25° 54.538 E.68° 17.312
	Rishal	300.00	N 25.93045 E.68.262253
	Daluketi	105.00	N 25° 59.753 E.68° 18.956
<b>Total Afforestation Division, Matiari:</b>		<b>3,305.00</b>	
<b>Afforestation Division, Larkana</b>	Madeji Riv:	250.00	27.7263 N , 68.4645 E
	Amrote Riv:	236.00	27.3851 N , 68.2313 E
<b>Total Afforestation Division, Larkana:-</b>		<b>486.00</b>	
<b>Afforestation Sub Division Kashmore @ Kandhkot</b>	Gublo-I (Riverine)	730.00	28° 21' 49" N 69° 47' 68" E
<b>Afforestation Division Thatta</b>	Bijora	100.00	24° 18' 52" N 67° 51' 20"
	Viran	226.00	24° 16' 37" N 67° 49' 42"
<b>Total Afforestation Division, Thatta:-</b>		<b>326.00</b>	
<b>Afforestation Division T.M.Khan</b>	Mulchand	400.00	24°57'8.96"N 68°17'4.79"E
	Jurar	200.00	24°55'41.28"N 68° 8'48.88"E
	khadi	70.00	24°54'50.70"N 68° 9'50.47"E
<b>Total Afforestation Division, TM Khan:-</b>		<b>670.00</b>	
<b>Afforestation Division Sujawal</b>	Bahadipur	200.00	24.423136 N 67.96941 E

	Ach Marho	200.00	24.360373 N 27.855321 E
	Budhani	127.00	24.337173 N 67.81101 E
<b>Total Afforestation Division, Sujawal:-</b>		<b>527.00</b>	
<b>Afforestation Division, Shaheed Benazirabad</b>			
	Nasri	200.00	26 11 03 N 68 03 05 E
	Sukhpur	150.00	26 24 962 N 67 55 644 E
	Lakha Jagir	100.00	26 54 37 N 68 01 57 E
	Kundah	173.00	26 28 38 N 67 53 08 E
	Mari	200.00	26 03 11 N 68 13 14 E
	Keti Jurio	100.00	26 02 05 N 68 15 30 E
<b>Total Afforestation Division, Shaheed Benazirabad:-</b>		<b>923.00</b>	
<b>Afforestation Sub Division Naushahro Feroze</b>			
	Mithiani (Riverine)	821.00	26.873091 N 67.987947 E
<b>Afforestation Division, Sukkur</b>			
	Bindi Dhareja	700.00	N 27°4339 68°5219E
	Qadirpur	200.00	N 27°4613 68°5013E
	Keti Shah	700.00	N 27°4554 68°55103E
	Ketiabad (R.B)	700.00	N 27°5253 68°5403E
	Keti Shahu	600.00	N 27°5338 68°5856E
	Ketiabad (L.B)	500.00	N 27°5603 69°0100E
	S.K. Shahu	700.00	N 27°5456 69°02441E
	Sadhuja	800.00	N 27°5622 69°0628E
	Budh	150.00	N 27°5538 69°00823E
	Bahab	500.00	N 27°5734 69°1029E
<b>Total Aff: Div. Sukkur:-</b>		<b>5,550.00</b>	

<b>Afforestation Division, Khairpur</b>	Keti Pir Sahib	300.00	27.676945 N 68 574205 E
	Keti Abhuro-I	100.00	27.526690 N 68.4229630 E
	Malhi	100.00	27.33734 N 68.28653 E
	Khanan	98.00	27.28238 N 68.23904 E
	Drigh & Siyal	100.00	27.28631 N 68.23979 E
	Mangi Mari	349.00	27.19106 N 68.14698 E
<b>Total Aff: Div. Khairpur:-</b>		<b>1,047.00</b>	
<b>G.Total:</b>		<b>15,000.00</b>	

**b) Riverine Forest (ploughing / cross ploughing to break the upper trampled crust layer)**

<b>Forest Division</b>	<b>Forest</b>	<b>Area (to be planted in acre)</b>	<b>GPS Coordinates</b>
<b>Afforestation Division Dadu</b>	Sonabindi	273	N27,070103 E67,967019
	Kacho Magsi	200	N27,110427 E68,025045
	Kamaldero	100	N27,132531 E68,045776
<b>Total Afforestation Division, Dadu:-</b>		<b>573</b>	
<b>Afforestation Sub-Division, Jamshoro</b>	Manjhand	100.0	N 25'53"09 E 68'16"02
	Unerpur	100.0	N 25'37"10 E 68'23"56
	Kundah	100.0	N 26'28"38" E67'56"08"
	Karo Khaho	100.0	N 25'15"33 E 68'19"02
		<b>400.0</b>	
<b>Afforestation Division Matiari</b>	Salaro	584	N.25° 42.048 E.68° 24.683
	Butho	700	N.25° 00.244 E.68° 16.559
<b>Total Matiari:-</b>		<b>1284.0</b>	
<b>Afforestation Division, Larkana</b>	<b>Madeji Riv:</b>	300.0	27.7340 N , 68.4978 E
	<b>Amrote Riv:</b>	400.0	27.3827 N , 68.2828 E
	<b>Hassan Wahan Riv:</b>	181.0	27.3508 N , 68.1689 E
<b>Total Afforestation Division, Larkana:-</b>		<b>881.0</b>	
<b>Afforestation Sub Division Kashmore @ Kandhkot</b>	Gublo-III (Riverine)	214	28o 21' 49" N 69o 47' 68" E
<b>Afforestation Division Thatta</b>	Viran	311	24o 16' 37" N 67o 49' 42"
	Khokhar	270	25° 6'25.83"N 68°17'35.49"E

<b>Afforestation Division Tando Muhammad Khan</b>	Budhka	200	25° 6'24.08"N 68°16'13.45"E
<b>Total Afforestation Division, Tando Muhammad Khan:-</b>		<b>470</b>	
<b>Afforestation Division, Shaheed Benazirabad</b>	Nasri	500	26 10 334 N 68 3 595 E
	Sukhpur	400	26 24 962 N 67 55 644 E
	Lakha Jagir	100	26 13 462 N 68 3 853 E
	Kundah	350	26 28 38 N 67 53 08 E
	Mari	280	24 02 50 N 68 08 50 E
	Kot Dhingano	500	
	Lakhat	500	
	Keti Jurio	400	24 03 18 N 68 16 51 E
	Tirchi	500	
<b>Total Afforestation Division, Shaheed Benazirabad:-</b>		<b>3530</b>	
<b>Afforestation Sub Division Naushahro Feroze</b>	Mithiani (Riverine)	337	26.5314 N 67.5455 E
<b>Afforestation Division Sukkur</b>	Bindi Dhareja	500	27.4421 N 68.5254 E
	Keti Shah	500	27.4740 N 68.5751 E
	Ketiabad (R.B)	500	27.5133 N 68.5338 E
	S.K. Shahu	500	27.5445 N 69.0426 E
	Sadhuja	1000	27.5915 N 69.0658 E
	Wahidpur	1000	28.0112 N 69.1021 E
	Rounti	1000	28.1219 N 69.3718 E
<b>Total Afforestation Division, Sukkur:-</b>		<b>5000</b>	

<b>Afforestation Division Khairpur</b>	Buth Mangneja	200	27.19106 N 68.14698 E
	Keti Abhuro-II	200	27.526690 N 68.4229630 E
	Abro Pota	400	27.28238 N 68.23904 E
	Keti Pir saheb	500	27.676945 N 68 574205 E
	Mangi Mari	500	27.33734 N 68.28653 E
	Keti Pandhi	200	27.28631 N 68.23979 E
<b>Total Afforestation Division, Khairpur:-</b>		<b>2000</b>	
<b>G.Total:-</b>		<b>15,000</b>	

**c) Establishment of Irrigated Plantations & Orchards**

<b>Forest Division</b>	<b>Forest</b>	<b>Plantation (in acre)</b>	<b>Orchard (in acres)</b>	<b>GPS Coordinates</b>
Afforestation Division Dadu	Kandi Baghban	75.00	25.00	N26,858814 E67,777999
<b>Total Afforestation Division, Dadu:-</b>		<b>75.00</b>	<b>25.00</b>	
Afforestation Division, Matiari	Rahu			26.06417 N , 68.410801 E
Afforestation Sub-Division, Jamshoro	Bhan	<b>30.00</b>	10.00	<b>Not Received</b>
Larkana Aff: Division	Amrote I.P	50.00	15.00	27.4172 N , 68.2252 E
	Gajidero Riv:	50.00	15.00	27.3078 N , 68.1229 E
	Hassan Wahan Riv:	50.00	15.00	27.3475 N , 68.1460 E



	Tatri Riv:	50.00	15.00	27.2626 N , 68.0880 E
<b>Total Afforestation Division, Larkana:-</b>		<b>200.00</b>	<b>60.00</b>	
Afforestation Division, Shikarpur	Andalal I.P	<b>22.00</b>	15.00	27o47.28" N 68o38.48 " E
Afforestation Sub Division Kashmore @ Kandhkot	Gehlpur-I (I.P)	<b>97.00</b>	28.00	28° 21' 49" N 69° 47' 68" E
Afforestation Division Thatta	Khanani	33.00	15.00	24° 18' 52" N 67° 51' 20"
	Maliriri	33.00	15.00	24° 16' 37" N 67° 49' 42"
<b>Total Aff: Div. Thatta:-</b>		<b>66.00</b>	<b>30.00</b>	
Afforestation Division T.M.Khan	Mulchand	<b>134.00</b>	50.00	245815.02472N 68172.53316E
Afforestation Division Sujawal	Penah	335.00	100.00	Latitude: 24.825613 Longitude: 68.10509
<b>Total Afforestation Division, Sujawal:-</b>		<b>335.00</b>	<b>100.00</b>	
Afforestation Division Badin	Rari	<b>403.00</b>	130.00	N 24.50583 E68.42763
Afforestation Division Sanghar @ Khipro	Nian	<b>144.00</b>	50.00	N 25.94900' E069.28441'
Afforestation Sub Division Naushahro Feroze	Dalipota (I.P)	50.00	20.00	26.5422 N 68.0154 E

	Muhabat Dero (I.P)	130.00	50.00	27.204869 N 68.248842 E
<b>Total Afforestation Division, Naushahro Feroze:-</b>		<b>180.00</b>	<b>70.00</b>	
Afforestation Division Khairpur	Sada Bahar	30.00	10.00	49.8628 E 29.78399 N
	Belhat	24.00	12.00	49.8649 E 49.94896 N
<b>Total Afforestation Division, Khairpur:-</b>		<b>54.00</b>	<b>22.00</b>	
GBA Division, Mirpur Mathelo	Adilpur	400.00	120.00	27°54'50.2"E 69°16'42.3"N
GBA Division, Mirpur Mathelo	Sultanpur	110.00	40.00	27°76'66.4"E 69°18'43.5"N
<b>Total GBA Division, Mirpur Mathelo:-</b>		<b>510.00</b>	<b>160.00</b>	
<b>G.Total:-</b>		<b>2,250.00</b>	<b>750.00</b>	

**d) Establishment of Coconut Plantation**

<b>Name of Division</b>	<b>Forest</b>	<b>Area</b>	<b>GPS Coordinates</b>
Afforestation Division, Thatta	Khanani	240	24°21'48.54"N 67°43'5.21"E
	Kathore	75	24°27'25.92"N 67°56'13.54"E
	Haya Dayo	75	24°28'8.82"N 67°57'1.82"E
	B.P.Das	60	24°44'35.18"N 68° 0'33.86"E
	Marho Kotri	60	24°22'31.44"N 67°50'2.97"E
	Maliriri	90	24°19'34.63"N 67°42'26.90"E
	<b>Total:-</b>	<b>600</b>	
Afforestation Division, TM Khan	Mulchand	<b>150</b>	245815.02472N 68172.53316E
Afforestation Division, Sujawal	Ganj Pako	30	24°41'59.81"N 68° 2'13.75"E
	Bahadipur	30	24.426598 N 67.960745 E
	P.Allah Bux	30	24°25'11.03"N 67°52'33.24"E
	Hazari	60	24°39'7.76"N 68° 2'10.50"E
	Penah	105	24.825613 N 68.10509 E
	Huderani	105	24.799787 N 68.081049 E
	Munarki	120	24°31'25.71"N 68° 0'10.93"E
	Budhani	30	24.337173 N 67.81101 E
	Khirsar	90	24°50'1.43" N 68° 4'10.96"E
	<b>Total:-</b>	<b>600</b>	
Afforestation Division, Badin	Rari	<b>150</b>	24° 30' 32.3888" N 68° 26' 58.5668" E
<b>Grand Total :-</b>		<b>1500</b>	

## II . Mangroves & Rangelands Ecosystem

### A. Mangrove Plantations in Indus Delta with GPS Coordinates

Sr#	Name of Forest Division	Creek System	Proposed Area in Acres	GPS Coordinates
1	Coastal Forest Division (RB) Karachi	Patiani, Dabbo Chaan, Turshan & Hajamro etc	25,000	From 24° 29'08.91"N 67° 15'23.07"E To 24°00'22.35"N 67°25'32.72"E
2	Coastal Forest Division (LB) Sujawal	Khobar, Qalandri, Gahbar, Kajhar & Kharak etc	30,000	From 23°58'42.59"N 67° 27'42. 70E To 23° 49'52. 57"N 68° 05' 36. 99"E

**B. Rangelands**  
**a. Seeding/Re-seeding in Forest Blocks**

S.No.	Forest Division	Forest Area	Area (to be Planted in acre)	GPS Coordinates
1	RM Division Karachi	Ranpathani (Seeding/Reseeding)	400	24.826333 N 67.610889 E
		<b>Total</b>		<b>400</b>
2	RM S-Division Umarkot	Sadori Block	50	25.194753 N 69.716831 E
		Janjjar Block	70	25.038563 N 69.859279 E
		Chelhar Block	80	24.973253 N 69.946607 E
		<b>Total</b>		<b>200</b>
3	RM Division Tharparkar @Mithi	Vijuto Forest Block	50	N: 24°51'18" E: 69°36'23"
		Dhengaro Phulparo Forest Block Village Aasalari	100	N: 24°23'24" E: 70°53'07"
		Lunio Sama	50	N: 24°30'19" E: 70°32'47"
		Islamkot Block Malho Bheel	50	N: 24°40'15" E: 17°13'16"
		Mokrio Forest Block	50	N: 24°22'20" E: 70°49'37"
		<b>Total</b>		<b>300</b>
<b>G.Total</b>			<b>900</b>	

**b. Dry Afforestation**

S.No.	Forest Division	Forest Area	Area (Acre)	GPS Coordinates
1	RM Division Karachi	Ranpathani (Dry Afforestation)	200	24.86497 N 67.602028 E
		Ghaggar (Dry Afforestation)	200	24.880028 N 67.43575 E
	<b>Total</b>		<b>400</b>	
2	RM S-Division Umarkot	Chhor Reserve Forest	100	25.522839 N 69.833896 E
		Nabi Sir Reserve Forest	50	25.108296 N 69.641644 E
		Diatbah & Mukalbah Blocks	50	25.301722 N 69.746878 E
	<b>Total</b>		<b>200</b>	
3	RM Division Tharparkar @Mithi	Mithi East Village Bughar	50	N: 24°45'17" E: 69°53'58"
		Mithi East Village Nanisar	100	N: 24°26'29" E: 69°52'14"
		Vakrio Block	50	N: 24°45'53" E: 70°28'26"
		Mokhrio Block	50	N: 24°22'20" E: 70°49'37"
		Dhengano Phulparo Block Village Aasalari	50	N: 24°23'24" E: 70°53'07"
	<b>Total</b>		<b>300</b>	
<b>G. Total</b>			<b>900</b>	

**c. Scrub Forest**

1	Afforestation Division Dadu	Gorakh Hill Station (Scrub Forest)	200	26.853889 N 67.144444 E
<b>Total</b>			<b>200</b>	

**III . Urban Ecosystem**

**a. Avenue plantation in urban centers**

S. No.	Name of Division	Area	Location	GPS Coordinates
		(Av Km)		
1	SF Division Karachi-I	20	Kiran Hospital to Madras Chowk	24°56'59" N 67°08'33" E
			Northern Bypass	25°54'56" N 67°56'80" E
			Taiser town to Gadap	25°03'23" N 67°08'21" E
2	SF Division Karachi-II	20	Korangi Undustrial Area Road	24°51'14" N 67°15'52" E
3	SF Sub-Div: Sanghar	10	Sinjhor-Shahdadpur	25 571926 N 68 4718.006 E
			Shahdadpur-Sanghar	25 5633144 N 68 4655.8336 E
			Tando Adam-Landhi	25 5558.656 N 68 4326.3964 E
4	Social Forestry Sub Divisoin Tando Allahyar	30	Tando Allahyar To Nasarpur city	25.470957 68.703446
5	Social Forestry Division, Mirpurkhas	15	Tando Jan Muhammad Bypass	25°02'32" N 69°15'56" E
			Mirpurkhas to Tando Adam Road	25°31'48" N 68°58'27" E
6	Social Forestry Division Tando Muhammad Khan	10	Lakhat Road ( Benazer Colony to Hyder Shah Bukhari)	25.1091625° 68.5351624°
			Mulakatiar Road (Saeed Pur Takar to Aale Jhirk road)	25.1324927° 68.4582179°
		10		

		10	Sujawal Road (Fiji Sugar Mills to Kapoor Mori)	25.1108005° 68.1852265°
7	Social Forestry Division Matiari	30	Matiari circuit house to Nasarpur	25.575368 68.456187
		15	Allah Dino Sand road from Hyderabad Branch Mori	25.55611 68.465394
8	Social Forestry Division, Sukkur	20	Rice Canal	27.691577 68.843486
9	Social Forestry Division Ghotki @ Mirpur Mathelo	20	From NHA New Road Via Bago Dara upto Chak Shabazpur	28°02'16.18"N 69°29'19.36"E
10	Social Forestry Division, Jacobabad	20	Dilmurad Station to Thul Raod	28° 17' 1.098" N
			NHA Jacobabad	68° 35' 9.528" E
11	Social Forestry Division Khairpur	28	Tando Masti Road to Larkana Pul Road	
12	Social Forestry Division, Shikarpur	10	Zakhai Road	28.054486 N 68.394284 E
		10	Habib Koi Road	27.525025 N 68.405263 E
13	S.F Division Dadu	20	Wahur to either side Plantation	262856.0 N 67.4329.1 E 26.3733.6 N 67.4406.9E
14	S.F Division Larkana	20	Chowdagi Bus Stop to Radhan Road	27. '19'24.139 N 68. '40'10.192 N
		7	Village Taggar to Village Sethar Road	-
15	S.F Division Kamber-Shahdadkot	10	Nasirabad to Gaji Khohawar Road	27.364057N 67.802155E
		10	Wagan to Warah Road	27.447923N 67.802934E
16		20		26.2016 N



S.F Division Shaheed Benazirabad		NHA to Dad Wahi via PK Chandio and Chanesar Stop	68.2454 E
<b>Total</b>	<b>400</b>		

**b. Canal side plantation**

S.No.	Name of Division	Area	Location	GPS Coordinates
		(Av Km)		
1	Social Forestry Division Karachi-II	20	Korangi Crossing	24°49'36" N
				67°05'11" E
2	Social Forestry Division Hyderabad	10	Ghanghra Mori to Seri	25.302676 N
			(Akram Wah Canal)	68.420094 E
		10	Rohri Canal to Tando Kaisar	25.380835 N
				68.940439 E
10	Fateh Mill to Hyderabad Bypass (Phuleli Canal)	25.416533 N		
		68.371715 E		
3	Social Forestry Division, Mirpurkhas	40	Belaro Shakh	25°21'35" N
				68°58'47" E
4	SF Sub-Div: Sanghar	20	Sanghar Minor	25 5448.1392 N
				68 3921.1044 E
				68 3254.42 E
		30	Tando Adam Canal	25 4620.8507 N
68 4049.13832 E				
5	Social Forestry Sub Division Tando Allahyar	20	Main Nasir Canal main Regular to Niddo Mori	25.470957
				68.703446
		10	Bulghar Shakh Distry of Main Nasri Canal (Left side)	25.4602297
				68.7320787
6	Social Forestry Division Tando Muhammad Khan	15	Gooni Wah ( Village Hussain Khan Leghari to Village Norae Shareef)	25.1459108°
				68.5185109°
		30	New Gooni Wah (Mulakatiar road to Satir Mori)	25.125893°
				68.5159265°
7	Social Forestry Division Matiari	10	Latif Minor Bhitshah	25.8179
				68.490118

		10	Hyderabad Branch	25.577613
				68.494655
		15	Rohri Canal Bakhar Jamali	26.050857
				68.409842
8	Social Forestry Division, Sukkur	20	Dadu Canal	27.728845
				68.797414
		20	Rice Canal	27.730244
				68.798572
		20	Khirthar Canal	27.731516
				68.797838
9	Social Forestry Division Ghotki@Mirpur Mathelo	35	Lundi Wah	28°06'19.5"N 69°28'33.8"E
		20	Kazi Wah	28°02'16.48"N 69°29'19.64"E
10	Social Forestry Division, Jacobabad	40	Noor Wah Jacobabad	28° 16' 14.13" N
			Begari Canal	68° 29' 36.492" E
				28° 21' 08.76" N
				68° 27' 11.01" E
				28° 15' 14.61" N
				68° 67' 32.96" E
11	Social Forestry Division, Shikarpur	10	Choai	28.006006 N
				68.373157 E
				68.361292 E
		15	Jara Wah	27.524423 N
				68.406850 E
		12	S.F Division Larkana	20
68. '01'19.221 N				
13	S.F Division Kamber- Shahdadkot	20	Warah Canal	27.741648N
				68.164368E

14	S.F Division Dadu	15	Johi Canal	262856.0 N
				674329.1 E
				262856.0 N
				674406.9 E
15	S.F Division Shaheed Benazirabad	15	Rain Shakh Minor	26.26 N
				68.0795 E
				68.0561 E
<b>Total</b>		<b>500</b>		

## Annex: 2 Attendance Sheets of Stakeholder Consultations

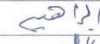



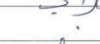


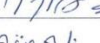
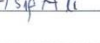
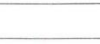


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Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	17-01-2022
Facilitator:	Environment Safeguard Consultant (NDRMF)	Venue:	Shah-Bundal (Coastal)

Sr.no.	Name	Title & Organization	Phone	E-mail	Signature
1.	Mokham Jamali	Range Forest Officer (Forest Dept.)	0301-2212841	m.khamjamali@gmail.com	<i>[Signature]</i>
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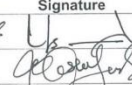

Name & Signature of Facilitator: *Mehak Masood* *[Signature]*

ESMP STAKEHOLDER CONSULTATION (SINDH FOREST & WILDLIFE DEPARTMENT)			
Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	14-01-22
Facilitator:	Environment Safeguard Consultant (NDRMF)	Venue:	

Sr.no.	Name	Phone	Signature
1.	Abraham	03212757292	
2.	Ali inhammad	—	
3.	Shah muhammad Shah	03332548778	
4.	Mashooq Ali	03089590282	
5.	Gulab	—	
6.	Nasrullah	—	
7.	umar Shandr	—	
8.	Majad Ali	—	
9.	Riaz Shah	03229527627	
10.	Asif		
11.			
12.			
13.			

Name & Signature of Facilitator: 

ESMP STAKEHOLDER CONSULTATION (SINDH FOREST & WILDLIFE DEPARTMENT)			
Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	14-01-2022
Facilitator:	Environment Safeguard Consultant (NDRMF)	Venue:	

Sr.no.	Name	Title & Organization	Phone	E-mail	Signature
1.	Usama Ansari	DFD R.M. Karachi	0301-2965934	wafusama@gmail.com	
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Name & Signature of Facilitator:

ESMP STAKEHOLDER CONSULTATION (SINDH FOREST & WILDLIFE DEPARTMENT)			
Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	14-01-2022
Facilitator:	Environment Safeguard Consultant (NDRMF)	Venue:	Thatta

Sr.no.	Name	Title & Organization	Phone	E-mail	Signature
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Name & Signature of Facilitator: Mehak Masood


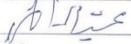




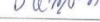
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Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	18-01-2022
Facilitator:	Environment Safeguard Consultant (NDRMF)	Venue:	Karachi

Sr.no.	Name	Title & Organization	Phone	E-mail	Signature
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3.	INAYAT PANWIKER	RFO (SF) Karachi-I	0300-3130741		
4.	SHOUKATALI LAKKHAN	Forester	0300-3263100		
5.	SHAMS UDDIN MAHAR	Forester	0307-7785802		
6.	Hyder Raza Khan	PD-Regulation of RIMOU			
7.					
8.					
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10.					
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Name & Signature of Facilitator: Mehak Masood

**ESMP STAKEHOLDER CONSULTATION (SINDH FOREST & WILDLIFE DEPARTMENT)**







<b>Project:</b>	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	<b>Meeting Date:</b>	18-01-2022
<b>Facilitator:</b>	Environment Safeguard Consultant ( NDRMF)	<b>Venue:</b>	Karachi

Sr.no.	Name	Phone	Signature
1.	Ghulam Mustafa	0316-2085742	
2.	Asif Ali	03142347480	M. Asif
3.	Mukhtiar Ahmed	0300400673	
4.	Ghulam Nazik	-	
5.	Musamir Shah	03438294655	
6.	Mir Mohammad	-	
7.	Shahid Ali	03023283641	
8.	Bhanboor	-	
9.	Kamel	-	
10.	Devraj	-	
11.	Nazir Mehd	0344380343	
12.	Gul Ahmed	03414413957	
13.	Tuman	03403178059	

Name & Signature of Facilitator:

Mehak Masood 

ESMP STAKEHOLDER CONSULTATION (SINDH FOREST & WILDLIFE DEPARTMENT)			
Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	17-01-2022
Facilitator:	Environment Safeguard Consultant ( NDRMF)	Venue:	Kete Bundar, Ghesro, Shah Bandar

Sr.no.	Name	Phone	Signature
1.	Anwar Ali Jamali	0391-3859398	
2.	Hakim Jamali	03213432748	
3.	Muhammad Yaqub Jammi	-	
4.	Shahzad Babar	-	
5.	Ramzan Panhwar	-	
6.	Ali Muneer Changa	0303-9381109	
7.			
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13.			

Name & Signature of Facilitator:

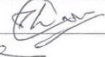



Mehak Masood



ESMP STAKEHOLDER CONSULTATION (SINDH FOREST & WILDLIFE DEPARTMENT)

Project:	Pakistan Hydro-Meteorological and Ecosystem Restoration Project	Meeting Date:	17-01-2022
Facilitator:	Environment Safeguard Consultant ( NDRMF)	Venue:	Khara Chhau

Sr.no.	Name	Phone	Signature
1.	Ahsan Mirbaker (Khara Chhau)	03033220742	
2.	M. Suleman Mulla	0302-2602908	
3.	Saleh Muhammad Mulla		
4.	Aqeed Hussain		
5.	Raza Ahmed		
6.	Hussain Muhammad		
7.	Raza Ahmed		
8.	Abbas Mulla		
9.	Zahid Mulla		
10.	Ghani Mulla		
11.	Ali Abbas Mulla		
12.	M. Rahem Mulla		
13.	Jumun Mulla		

Name & Signature of Facilitator: 



## ANNEX:3 Environmental & Screening Checklist

### National Disaster Risk Management Fund (NDRMF)

#### *Environment & Social Screening & Categorization Form (ESCF)*

##### Instructions:

(i) The Environment / Social Specialist shall complete this form to support the categorization of a project. It shall be submitted to the NDRMF Safeguards Unit for review & endorsement.

(ii) This checklist focuses on environmental issues and concerns as per NDRMF's ESMS and WB Safeguard Policies

(iii) This form is to be completed assuming the "without mitigation" case. The purpose is to identify potential impacts.

1. **FIP Name;** Sindh Forest Department

2. **Project Title:** Restoration of Riverine, Inland, Mangroves, Dry-land and Urban Forests Ecosystems of Sindh Province (RRIMDU)

3. **Project Location:** Throughout Sindh Province. Karachi, Thatta, Sujawal, Tando Muhammad Khan, Badin, Hyderabad, Mirpurkhas, Tando Allahyar, Sangahr, Matiari, Shaheed Benazirabad, Naushahro Feroze, Khairpur, Sukkur, Mithi, Umerkot Mirpur Mathelo, Kandhkot, Shikarpur, Larkana, Dadu and Jamshoro Districts of Sindh

4. **Total Project Cost (million PKR)** 2130.00

5. **Project GPS Co-ordinates N** **E**

Project location map is provided in the ESMP, locations of the project sites with GPS coordinates are attached as Annexure-I of the Area Statement.

6. **The proposed project activity is NOT listed in the Prohibited Investment Activities List (PIAL) (please refer to Annexure I below).**

**YES**  **No**

7. **Please provide details of any significant expected impacts ("without mitigation" case) due to the proposed project activities:**

#### **Environmental Screening Checklist**

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
1	Will construction or operation of the project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes	Proposed civil works may cause minor impacts due to the following:  Impact water quality & quantity Impact on soil due and landscape No operational phase impacts are foreseen No use of non-renewable or resources of which are short in supply	Since the project is for ecosystem restoration, therefore, the resources used will be benefitted from the activities. Nevertheless, following measures will be applied:  Limited site will be cleared Un-necessary excavation will be prohibited. Compensatory plantation of indigenous species will be ensured Site restoration will be carried out where needed. Permanent structures will not be constructed in ecological sensitive areas Interventions will not have conducted in water scarce areas No private land will be used No such natural resources will be used which are non-renewable in nature Local forest will not be used as energy sources and strictly prohibited on all sites No major land use change will be allowed
2	Will the project involve cutting of trees?	No	Tree cutting will not be required for the proposed project interventions, instead project will have positive impacts due to plantation interventions in different proposed ecosystems.	<ul style="list-style-type: none"> <li>• In case of unforeseen tree cutting, compensatory plantation will be ensured of indigenous species</li> <li>• Local forests/plantations will be protected and conserved through proper awareness of workers and staff.</li> </ul>
3	Are there any protected areas on or around the locations which could be affected by the project?	No	Positive, since the project aims at restoration of ecosystem in protected areas.	<ul style="list-style-type: none"> <li>• For unforeseen chances following mitigation measures are proposed:</li> <li>• No such interventions will be carried out which have long term irreversible impacts on large area</li> <li>• Interventions will be designed to have no and or minor site specific impacts and could be mitigated</li> <li>• No permanent structures will be built which could have impact on local flora and fauna</li> <li>• Local species will be protected and enhanced within same environment through in-situ conservation method.</li> </ul>

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
				<ul style="list-style-type: none"> <li>• No new specie will be introduced to ensure genetic violence of the protected area ecosystem</li> <li>• Temporary structures will be placed/installed in working zone of protected to avoid habitat loss and nuisance</li> <li>• Efforts will be made to avoid core zone of protected area to avoid impacts of physical works</li> <li>• Physical works will not be carried out in seasons favorable for nesting, breeding and migration</li> <li>• Human interaction with wild species will be kept very low to ensure wilderness</li> <li>• Further measures will be identified and proposed in the detailed ESMP</li> </ul>
4	Are there any ecologically sensitive areas on or around the locations which could be affected by the project?	No	Positive, since the project aims at restoration of ecosystem in protected areas.	NA
5	Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration?	No	<p>No such sites are identified in and around the target areas that are used by protected species of flora and fauna.</p> <p>Project will have positive impacts on the local ecosystem upon completion of the interventions.</p>	<ul style="list-style-type: none"> <li>• Although the impacts are anticipated to be positive, following mitigation measures are proposed for unforeseen chances: <ul style="list-style-type: none"> <li>• Indigenous species will be planted and exotic will be prohibited</li> <li>• Local forests will be conserved and cutting of trees will be avoided</li> <li>• LPG will be used if required on working site as energy source</li> <li>• Hunting will be prohibited on working sites, nests of birds and animals will be protected</li> <li>• The construction works will be limited within the designated sites allocated to the contractor.</li> <li>• If bird nests are located/detected within the</li> </ul> </li> </ul>

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
				<p>intervention site, then those areas will be avoided.</p> <ul style="list-style-type: none"> <li>Awareness session will be conducted with workers and locals on conservation and ecological importance of indigenous species</li> </ul>
6	Are there any areas on or around the locations which are occupied by the sensitive land-use e.g. hospitals, schools, worship places, community facilities?	Yes	<p>During peri urban block forestation, the chances could be found for such sensitive receptors.</p> <p>No such impacts are envisaged because waste lands sites will be selected</p>	<ul style="list-style-type: none"> <li>All such sites will be avoided where these sensitive receptors will be found.</li> <li>In schools and hospital if required, proper consultation will be ensured with the concerned authority</li> <li>Protection will be ensured for all such receptors during the execution phase through community involvement.</li> </ul>
7	Will the project involve use, storage, transport, handling or production of substance or materials, which could be harmful to human health or the environment?	No	<ul style="list-style-type: none"> <li>The subproject does not involve use of harmful and toxic materials</li> <li>However, physical interventions might have adverse impacts due to transportation and storage of materials</li> </ul>	<p>Following measures will be followed for unforeseen chances:</p> <ul style="list-style-type: none"> <li>Routs shall be identified for carrying construction materials to the working sites which have minimum chances of incidents for community</li> <li>Traffic management rules shall be identified and implemented to ensure maximum safety</li> <li>Dust will be controlled through proper water sprinkling on all routs under use and vehicles will be covered to avoid the spill and dust issues in residential area</li> </ul>
8	Will the project release pollutants or any hazardous, toxic or noxious substances to air?	No	<ul style="list-style-type: none"> <li>No such impacts are envisaged for noxious and hazardous substances, however minor level dust might generated at civil works sites</li> </ul>	<ul style="list-style-type: none"> <li>Use of hazardous substances will not be allowed</li> <li>Water sprinkling will be ensured on all working sites</li> <li>Loose earth material will not be left uncover</li> <li>Trucks will be covered during transportation of earth material</li> </ul>
9	Will the project generate high levels of dust during construction and operation?	Yes	<ul style="list-style-type: none"> <li>Major physical works not involved in the project</li> <li>No high level dust will be generated, however site specific minor dust can be observed during construction works</li> </ul>	<ul style="list-style-type: none"> <li>Soil and temporary spoil piles will be covered or sprayed with water</li> <li>Tractor loads will be covered with any suitable material</li> <li>Unnecessary movement of vehicles will be avoided</li> <li>Open burning of solid waste shall be strictly prohibited</li> <li>Raw materials such as cement, gravels and sand will be kept under sheet covers</li> </ul>

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
				<ul style="list-style-type: none"> <li>All equipment/vehicles used in construction will be regularly serviced to minimize emissions</li> <li>Necessary PPEs will be provided to prevent and mitigate exposure to dust</li> </ul>
10	Will the project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	No	<ul style="list-style-type: none"> <li>Noise could be generated during construction works</li> </ul>	<ul style="list-style-type: none"> <li>Night shifts will not be allowed along residential areas</li> </ul>
11	Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters and groundwater?	Yes	Turbidity of the existing water sources may be increased	<ul style="list-style-type: none"> <li>Waste will be safely disposed of in demarcated waste disposal sites to avoid any impact on the drinking water sources, irrigation channels, and natural drainage</li> <li>All fuel storage will be properly marked to highlight their contents with a concrete pad underneath to prevent water contamination in case of leaks or spills</li> <li>Excess material will not be stored at sites</li> </ul> <p>Spill kits will be used clean the spillage (in case any)</p> <p>Drip trays will be used during fueling of vehicles</p> <p>The cement and water used for curing will not be discharged directly into water courses and drainage inlets. It will be ensured that there will be no standing water at the working site</p> <p>The labor workforce shall be trained in the storage and handling of waste materials encountered during project activities</p> <p>Use of chemicals/fertilizers/pesticides will be prohibited on working sites in this projects</p> <p>Open defecation will be prohibited on all working sites</p>
12	Is the planting method including type of species adequate and not disturbing the original ecosystems?	Yes	<ul style="list-style-type: none"> <li>The planting method and type of species will not result in disturbance to the local ecosystem.</li> <li>Proposed interventions will</li> </ul>	<ul style="list-style-type: none"> <li>Exotic species will not be planted</li> <li>Local species will be given protection through plantation</li> </ul>

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
			rather beneficial for the local ecosystem	
13	Is the project anticipated to damage the aquatic ecology as a result of surface water contamination?	No	<ul style="list-style-type: none"> <li>Project will not require camps establishment which could lead to such impacts</li> </ul>	<ul style="list-style-type: none"> <li>Nevertheless, sites will be managed for solid waste and sanitation related issues</li> </ul>
14	Will the project involve demolition of Asbestos containing materials? If yes, Refer to Annexure 4 of the main document (Asbestos use for the new construction is not allowed under the project).	No	<ul style="list-style-type: none"> <li>No use of Asbestos containing material is envisaged in the project, hence the impacts are not likely to occur.</li> </ul>	<p>Following measures will be applied for unforeseen chances:</p> <ul style="list-style-type: none"> <li>Use of Asbestos will be prohibited</li> <li>If found, will be reported to the environment focal person for immediate action</li> <li>All such material will be cleared and disposed off at suitable sites.</li> </ul>
15	Will the project interventions result in improper sanitation and solid waste disposal systems?	Yes	<ul style="list-style-type: none"> <li>All activities involved in the subproject have minor level potential to result in improper sanitation and solid waste disposal systems</li> </ul>	<ul style="list-style-type: none"> <li>Construction sites will be selected at suitable sites where communities are at considerable distance</li> <li>Construction sites and camps will be planned to have proper arrangements for waste management and sanitation system</li> <li>Proper waste management procedures shall be developed to avoid contamination of the environment.</li> </ul>
16	Is there proper mechanism for solid waste disposal and sanitation?	Yes	<ul style="list-style-type: none"> <li>Currently no mechanism for solid waste disposal has been observed on the sites.</li> <li>Site specific minor level impacts are anticipated if sites are not properly managed for it</li> </ul>	<ul style="list-style-type: none"> <li>Sites will be kept clear for all type of solid waste through preparation and implementation of solid waste management plan</li> <li>Workers will be trained to maintain and follow the SoPs</li> <li>Effluents will be controlled and managed to avoid spillage in the nearby water bodies.</li> <li>For general solid waste, site-specific waste management options will be implemented including:</li> </ul>

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
				<ul style="list-style-type: none"> <li>• Provision of temporary refuse bins at all sites.</li> <li>• Regular collection and environmentally safe disposal of waste</li> <li>• Recycling as far as possible.</li> </ul>
17	Will the project interventions result in road blocking and temporary flooding due to land excavation during rainy season?	Yes	<ul style="list-style-type: none"> <li>• The chances are rare due to scope of work proposed and will occur if sites are not properly managed.</li> </ul>	<ul style="list-style-type: none"> <li>• Local roads/pathways will be kept open and material dumping will be avoided</li> <li>• Sites will be cleared all the times during construction phase of the project</li> <li>• Local drains will be cleared to avoid flooding</li> </ul>
18	Are the project interventions located in flood prone areas? If yes, Kindly refer to Annexure 3 of the main document.	Yes	<ul style="list-style-type: none"> <li>• Plantation interventions are proposed in the river inundation zones, but the no activates will be carried out during flooding.</li> <li>• Renovation of existing forest rest house at Kundah is located in flood prone zone</li> </ul>	<ul style="list-style-type: none"> <li>• Kundah forest rest house has already been designed and construction on the DRR standards for flood and current works will be limited to renovation only.</li> <li>• Nevertheless, for unforeseen chances, the structural activity conducted in any such areas should be designed as per 'Flood Resistant Design Guidelines' given in the ESMF.</li> <li>• Sites will be assessed for possibility of flood prone zone and mitigation measures will be proposed in the ESMP during inception phase of the project</li> </ul>
19	Will the project have risks to community health and safety caused by (any or all of the below)  Management and disposal of waste Civil or electrical works Accidental and natural hazards, particularly where structural elements or components of	Yes	<ul style="list-style-type: none"> <li>• Civil works will have risk related to community health and safety during construction phase only</li> <li>• SWM could be a problem if not properly managed</li> <li>• No fire and heavy electrical works are required therefore, the impacts are not likely to happen.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction sites will not be selected near residential areas to avoid the safety risks</li> <li>• Awareness session will be conducted with communities</li> <li>• Warning signs will be installed at critical sites</li> <li>• SWM plan will be developed and implemented for all sites</li> </ul>



S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
	<p>project are accessible to members of affected community and Fire, electric shock or failure of civil structures during operation.</p>			
20	Will the project have occupational and community health and safety risks?	Yes	<ul style="list-style-type: none"> <li>• Minor impacts could be envisaged during construction works as given:</li> <li>• Health and safety for both workers and community</li> <li>• Poor sites management for waste generation</li> </ul>	<p>Occupational health and safety plan will be prepared and submitted to supervision consultants for approval.</p> <ul style="list-style-type: none"> <li>• First aid kits will be kept at project sites and workers will be provided first aid training</li> <li>• In case of an incident involving injury, the injured will be taken to the nearest medical facility after providing necessary first aid</li> <li>• Provision of clean drinking water will be ensured for the project workers</li> <li>• Workers with inadequate training will not be allowed to operate vehicle/machinery</li> <li>• Appropriate and high quality Personal Protective Equipment (PPE) will be provided to workers such as gloves, vests, safety shoes, masks etc.</li> <li>• Workers will be trained in the use of PPE and safety measures while working on project sites</li> </ul> <p>The contractor shall not hire children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks.</p> <p>Occupational accidents, disease and incidents will be recorded and reported.</p>
21	Will the project result in generation of disease vectors due to project activities.	Yes	<ul style="list-style-type: none"> <li>• Due to labor influx from other areas might have chances</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness sessions will be conducted with workers</li> <li>• If found such individual will be isolated from the rest of the workers</li> </ul>

S. No.	Type of expected impact	Yes/ No	details of the impacts	Proposed mitigation measures
22	Would physical cultural resources be found in the project area? If yes, please refer to Annexures 5	No	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• NA</li> </ul>
23	Are there any risks of disturbance of local ecosystems/wildlife/biodiversity?	No	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• NA</li> </ul>
24	Are there any biotic/abiotic features to be considered for the afforestation/reforestation methods? E.g. species selection, season for planting etc.	Yes	<ul style="list-style-type: none"> <li>• For proposed sub-project, all biotic/abiotic features will be considered for afforestation/reforestation. Plantation of exotic species will be avoided and plantation will take place in the blooming season for maximum output. However, species selection and season for planting has been proposed by the department making this impact minor.</li> </ul>	<ul style="list-style-type: none"> <li>• Afforestation and biodiversity conservation activities should be conducted based on available research on the native environmental and ecological parameters to avoid any impacts.</li> <li>• Optimum soil preparation time should be given which is usually a year before the plantation. In order to increase the survival rate of afforestation, planting should start from the spring or rainy season of the second year giving backfill soil enough time to age and replenish its water content.</li> </ul>
25	Are there any associated activities or potential induced impacts associated with the implementation of afforestation/reforestation activities?	Yes	<ul style="list-style-type: none"> <li>• Positive induced impacts are anticipated</li> </ul>	<ul style="list-style-type: none"> <li>• Site specific assessment during inception phase will identify the chances</li> <li>• Mitigation measures in the ESMP will be applied during execution phase</li> </ul>

### **Project Category Recommendation (Environment)**

**13. It is recommended that based on the available project information and subsequent analysis, the project should be placed in (please tick one):**

Category 'A'

Category 'B'

Category 'C'

**Note:**

**Category “A” sub-project will not be eligible for funding from the project.**

**Category “B” sub-project will require the preparation of ESMP.**

**Category “C” sub-project will require the completion of environmental checklist**

**14. Please provide an explanation to justify the Categorization above:**

Keeping in view the nature and scope of subproject i.e., ecosystem restoration, it has been deduced that the interventions will have an overall positive impact; however, minor impacts are anticipated during construction which will be mitigated by preparation and implementation of sub-project ESMP. Moreover, the considerations of the ESMF should be incorporated in the sub-project design to ensure sustainability.

**15. Recommendation on the specific mitigation measures to be implemented (Summarize the screening result, select from ESMMP (Chapter 6), ECoP (Annexure 2) and/or specify other measures to be undertaken by the sub-project)**

- ECP 1: Waste Management
  - ECP 2: Fuels and Hazardous Substances Management
  - ECP 5: Soil Quality Management
  - ECP 6: Erosion and Sediment Control
  - ECP 8: Air Quality Management
  - ECP 9: Noise and Vibration Management
  - ECP 10: Protection of Flora
  - ECP 11: Protection of Fauna
  - ECP 14: Construction Camp Management
  - ECP 15: Cultural and Religious Issues
  - ECP 16: Workers Health and Safety
- 
- Disallow introduction of invasive/ exotic species; and recommend native species for plantation.
  - Avoid use of pesticides for plant growth.
  - Rangelands should not be selected for afforestation activities.
  - Prohibit introduction of plant species that have high water requirement in water logged areas.
  - Selection of local species for afforestation/reforestation. Selection should also consider the habitat preference/requirements of the species.
  - Tree species selection should be based on the principle of applying different approaches to different land and different trees. Furthermore, the selection should not only have high biomass and high amount of fixed carbon, but also be suitable to conserve water and soil, break wind and fix sand.
  - Afforestation and biodiversity conservation activities should be conducted based on available research on the native environmental and ecological parameters to avoid any impacts.
  - Optimum soil preparation time should be given which is usually a year before the plantation. In order to increase the survival rate of afforestation, planting should start from the spring or rainy season of the second year giving backfill soil enough time to age and replenish its water content. This optimum time will increase the survival rate and will decrease the impacts of soil erosion.

## ANNEX: 4 Social Safeguards Screening Checklist

### (a) Involuntary Resettlement Screening Checklist

Potential Impacts	Yes	No	Expected	Remarks
Does the sub-project involve any physical construction work, i.e. rehabilitation, reconstruction or new construction? Specify in "remarks" column.				Activities proposed in the project will require civil works with limited scope
Does the sub-project involve impacts on land, assets and people, if "Yes" try to quantify the impacts and check following items? If "No" impacts, explain the situation in "remarks" and move to section 2.				No such impacts are anticipated yet, ESMP will provide detail of impacts and mitigation measures
<b>Potential impacts</b>				
<b>Land</b> (quantify and describe types of land in "remarks" column".				Project is proposed for forest, wildlife and tourism department interventions and govt land will be used
Government or state owned land free of occupation (agriculture or settlement)				
Private land				
▪ Residential				
▪ Commercial				
▪ Agriculture				
▪ Communal				
▪ Others (specify in "remarks").				
<b>Land-based assets:</b>				
▪ Residential structures				
▪ Commercial structures (specify in "remarks")				
▪ Community structures (specify in "remarks")				
▪ Agriculture structures (specify in "remarks")				Very little chances are foreseen, the impacts will be very minor and covered through mitigation measures in the ESMP ( if required)

Potential Impacts	Yes	No	Expected	Remarks
<ul style="list-style-type: none"> <li>▪ Public utilities (specify in “remarks”)</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Others (specify in “remarks”)</li> </ul>				
<b>Agriculture related impacts</b>				
<ul style="list-style-type: none"> <li>▪ Crops and vegetables (specify types and cropping area in “remarks”).</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Trees (specify number and types in “remarks”).</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Others (specify in “remarks”).</li> </ul>				
<b>Affected Persons (DPs)</b>				Due limited scope of work and project locations in far areas of forest, the chances are almost nil.
<ul style="list-style-type: none"> <li>▪ Number of DPs</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Males</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Females</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Titled land owners</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Tenants and sharecroppers</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Leaseholders</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Agriculture wage laborers</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Encroachers and squatters (specify in remarks column).</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Vulnerable DPs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in “remarks”.</li> </ul>				
<ul style="list-style-type: none"> <li>▪ Others (specify in “remarks”)</li> </ul>				
<b>Section 2</b>				
Others (specify in “remarks”).				Due to limited scope of work the impacts on all such groups are almost nil
Are there any other minority groups affected by land acquisition or project activities? If				

Potential Impacts	Yes	No	Expected	Remarks
"Yes" check the following items				
<ul style="list-style-type: none"> <li>Minority groups (specify in "remarks"). Describe nature of impacts</li> </ul>				

**(b) Indigenous Peoples' Screening Checklist**

KEY CONCERNS (Please provide elaborations in the Remarks column)	YES	NO	NOT KNOWN	Remarks
<b>A. Indigenous Peoples Identification</b>				
1. Are there socio-cultural groups present in or using the project area who may be considered as "tribes" (hill tribes, schedules tribes, tribal peoples), "minorities" (ethnic or national minorities), or "indigenous communities" in the project area?				Project is proposed in the Sindh and notified IP are residents of Kalash valley in KPK. Therefore, this section is not applicable.
2. Are there national or local laws or policies as well as anthropological researches/studies that consider these groups present in or using the project area as belonging to "ethnic minorities", scheduled tribes, tribal peoples, national minorities, or cultural communities?				IP are not found in the area of project
3. Do such groups self-identify as being part of a distinct social and cultural group?				Local casts of Sindh do not claim themselves to be part of IP
4. Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?				No such attachments are found
5. Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?				No distinct community groups are identified in the project area.

<b>KEY CONCERNS</b> (Please provide elaborations in the Remarks column)	YES	NO	NOT KNOWN	Remarks
6. Do such groups speak a distinct language or dialect?				Some local dialects of Sindhi and Saraeki languages are spoken, while official language is Urdu.
7. Have such groups been historically, socially and economically marginalized, disempowered, excluded, and/or discriminated against?				No such marginalized groups are identified.
8. Are such groups represented as "Indigenous Peoples" or as "ethnic minorities" or "scheduled tribes" or "tribal populations" in any formal decision-making bodies at the national or local levels?				
<b>B. Identification of Potential Impacts</b>				
9. Will the project directly or indirectly benefit or target Indigenous Peoples?				NA
10. Will the project directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices? (e.g. child-rearing, health, education, arts, and governance)				No such factors are identified in the project areas
11. Will the project affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status).				No such factors are identified in the project areas
12. Will the project be in an area (land or territory) occupied, owned, or used by Indigenous Peoples, and/or claimed as ancestral domain?				No such factors are identified in the project areas
<b>C. Identification of Special Requirements</b>				
<i>Will the project activities include:</i>				
13. Commercial development of the cultural resources and knowledge of Indigenous Peoples?				No such factors are identified in the project areas
14. Physical displacement from traditional or customary lands?				No such factors are identified in the project areas

<b>KEY CONCERNS</b> (Please provide elaborations in the Remarks column)	<b>YES</b>	<b>NO</b>	<b>NOT KNOWN</b>	<b>Remarks</b>
15. Commercial development of natural resources (such as minerals, hydrocarbons, forests, water, hunting or fishing grounds) within customary lands under use that would impact the livelihoods or the cultural, ceremonial, spiritual uses that define the identity and community of Indigenous Peoples?				No such factors are identified in the project areas
16. Establishing legal recognition of rights to lands and territories that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?				No such factors are identified in the project areas
17. Acquisition of lands that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?				No such factors are identified in the project areas



### Annex 5: Public Consultation Sessions

S.No	Date	District	Village Name	Focal Person	Community	Participants		Agenda of Discussion
						Male	Female	
1	26-03-2022	Kamber	Bukeja Kkhando	Dost Muhammad Dasti SDFO Kamber shahdaskot alongwith hid subordinate fielded formation	Noorabad	10	2	Objective of the project were elaborated to the community, benefits of ecosystems, services with the village formation under intended tree plantation initiative
2	29/3/2022	T.M.Khan	Villages: Haji Pnhoon Khan Leghari, Peer Bux Gadehi, Benazir abad and Arab Mallah.	Mr. Mukhtiar Ali Mirbahar, DFO SF Division, TMK	Representatives of several communities	14	-	Awareness about the project objectives and activities were elaborated to the communities, successful implementation of project interventions.
3	18-03-2022	Shikarpur	Rahimbad	Mir Niaz Ali	Soomro & Bhatti	15	-	Awareness about the project objectives and activities were elaborated to the communities, importance of forest were discussed
	16-03-2022		Salar Bhatti		Chachar, Bhatti & Phore	20	-	Awareness about the project objectives and activities were elaborated to the communities along with orientation on tree plantation.
4	19.07.2022	Ghotki			Mr. Nizam-uddin Chachar	50	--	

			Village Dari, Taluka Mirpur Mathelo	Mr. Arif Ali Jagirani, Range Forest Officer,	Mr. Gul Chachar Mr. Nazeer Wirind Mr. Abdul Jabbar Chachar Mr. Abdul Hameed Chachar.			Awareness regarding importance/ enhancing of forest tree cover over Forest Lands.
5	14-03-2022	Malir	Taisar Town & Gadap	Mr. Inayatullah Panhwar RFO-I	Brohi	8	-	Awareness about the project objectives and activities were elaborated to the communities, Raising of Urban Forestry & Road Side Plantation
	17-03-2022		Sachal Goth	Mr. Inayatullah Panhwar RFO-I	Chachar	6	-	Awareness about the project objectives and activities were elaborated to the communities, Raising of Urban Forestry & Road Side Plantation
	21-03-2022		Pehalwan Goth	Mr. Inayatullah Panhwar RFO-I	Jamot	4	-	Awareness about the project objectives and activities were elaborated to the communities, Raising of Urban Forestry & Road Side Plantation
6	16-03-2022	Sujawal	Village Gaju Jokhio, Village Haji Ghulam Hussain Almani and Jummon Palijo	Fids Hussain Gugo Range Forest Officer Afforestation Range Bannu	Almani/ Jokhio/Palihjo/ Manganhar etc	40	-	Awareness about the project objectives and activities were elaborated to the communities, Establishment Plantation under Development Scheme RIMDU

7	20/03/2022	Mirpurkhas	Zafar Agriculture Farm, Near Main Jamrao Canal, Turk Ali Mari, Taluka Hussain Bux Mari, Mirpurkhas	Ahmed Khan Range Forest Officer, Social Forestry Range Mirpurkhas	General Public	10		To aware the public regarding importance of forest. Sustainable utilization of Forest resources via Plantation / Afforestation. Roll of Community in as a support for success of Plantation. To Mitigate the effects of Climate change. Nomination of community person and focal person for assistance in Plantation works.
8	23/3/2022		Zafar Agriculture Farm, Near Main Jamrao Canal, Turk Ali Mari, Taluka Hussain Bux Mari, Mirpurkhas	Mehboob Ali Bhatti Divisional Forest Officer, Social Forestry Division Mirpurkhas	General Public	10		To aware the public regarding importance of forest. Sustainable utilization of Forest resources via Plantation / Afforestation. Roll of Community in as a support for success of Plantation. To Mitigate the effects of Climate change. Nomination of community person and focal person for assistance in Plantation works.
9	15/03/2022	Dadu	Shahpanjo	Divisional Forest Officer Afforestation Division Dadu/Range Forest Officer Afforestation Range Radhan	Soomra, Lakhair, Chandia	6	7	Awareness about the project objectives and activities were elaborated to the communities. Benefits of Forest and its effects on environment and community was elaborated.
10	25.3.2022	Tando Allah yar	Muhammad Umer Halepoto	Mr.Manoj Kumar RFO Mr. Rajab Ali F.G	Halepoto Community	5	1	Awareness about plantation with respect to current scenario of global warming .canal side plantation its importance and aesthetic value of canal side plantation for public as well as protection of canals band.

	27.03.2022		Umeed Ali dal	Mr. Manoj Kumar RFO Mr. Ali Nawaz F.G	Dal Community & Non-Muslim Community	6	2	Awareness about plantation with respect to current scenario of global warming .Roadside plantation and its importance. Roadside plantation aesthetic value advantage of roadside plantation
11	15-03-2022	Sujawal	Hussain Babro	Mr. Shoaib Kamboh, RFO (A) Penah at Darro	Babro Tribe	8	-	Awareness about plantation with respect to current scenario of global warming .Roadside plantation and its importance. Roadside plantation aesthetic value advantage of roadside plantation The community members were informed about various interventions to be carried out under the project Potential sites were identified for carrying out the project intervention with the consultation of the community. Role of community members, social mobilization regarding protection and conservation activities were also discussed.
	18-03-2022		Ismail Mirjat		Mirjat Tribe	12	-	
	21-03-2022		Muhammad Ismail Korejo		Korejo tribe	10	-	
	22-03-2022		Jogi Khaskheli		Khaskheli tribe	15	-	
12	19/3/2022	Hyderabad	PanhwarVillage Tando Fazal	Mr. Aamir Soomro RFO	Gopang, Burdi, Magsi, Bhatti, Bhutto	6	0	

13	22/3/2022	Thatta	Khanani Forest, Ghorabari	Mr. Abdul Ghafoor Sial Range Forest Officer	Syed, Jalbani, Junejo, Mallah, Cheero	8	0	Role of community members, social mobilization regarding protection and conservation activities was also discussed. Opportunities of jobs on to the community members in carrying out the project interventions were also discussed.
14	23.03.2022	Shaheed Benazirabad	Chanesar Stop	Muhammad Younis Chandio Range Forest Officer (SF) Range Qazi Ahmed	Zardari/ Chandio etc	20	0	Canal side plantation under the proposed scheme at Rohri Main Canal from Waris Ali Shah Regulator to Attar Regulator on both sides i.e. inspection path (IP) & non inspection path (NIP).
15	26.03.2022	Shaheed Benazirabad	Rawat Chandio	Muhammad Younis Chandio Range Forest Officer (SF) Range Qazi Ahmed	Zardari/ Chandio/ Korejo/ Shah etc	25	0	Road side plantation under the proposed scheme from Qazi Ahmed to Pir Jo Goth via Pad.
16	27.03.2022	Sanghar	Baqar Khan Nizamani @ Irrigation Rest House Baqar Ji Mori	Din Muhammad Baloch Range Forest Officer (SF) Range Tando Adam	Brohi/ Nizamani/ Bhatti etc	25	0	Establishment of Canal side plantation under proposed schemes at Main Rohri Canal from Golo Pir to Kumbh Daro.
	29.03.2022		Chodgi Stop @ Hala Shahdadpur Road	Din Muhammad Baloch Range Forest Officer (SF) Range Tando Adam	Syed/ Lakho/ Nizamani etc	30	0	Establishment of road side plantation under proposed schemes from Hala to Shahdadpur road.

	09.05.2022		Baqar Khan Nizamani @ Irrigation Rest House Baqar Ji Mori	Din Muhammad Baloch Range Forest Officer (SF) Range Tando Adam	Brohi/ Nizamani/ Bhatti etc	25	0	Establishment of Canal side plantation proposed scheme at Main Rohri Canal from Golo Pir to Kumbh Daro.
	10.06.2022		Chodgi Stop @ Hala Shahdadpur Road	Din Muhammad Baloch Range Forest Officer (SF) Range Tando Adam	Syed/ Lakho/ Nizamani etc	30	0	Establishment of road side plantation under proposed scheme) from Hala to Shahdadpur road.
17	23.03.2022	Shaheed Benazirabad	Chanesar Stop	Muhammad Younis Chandio Range Forest Officer (SF) Range Qazi Ahmed	Zardari/ Chandio etc	20	0	Canal side plantation under the proposed schemes at Rohri Main Canal from Waris Ali Shah Regulator to Attar Regulator on both sides i.e. inspection path (IP) & non inspection path (NIP).
	26.03.2022		Rawat Chandio	Muhammad Younis Chandio Range Forest Officer (SF) Range Qazi Ahmed	Zardari/ Chandio/ Korejo/ Shah etc	25	0	Road side plantation proposed schemes from Qazi Ahmed to Pir Jo Goth via Pad.
19	17-03-2022	Karachi (Dhabeji)	Abdul Kalmati G.Qadir Kalmati	Mr. Haji Shah, Aijaz from Community member and DODO Khan RFO, Dhabeji	Jokhio, Kalmani, Palari, Baloch Gabol	55	0	Establishment of Seeding & Reseeding Plantation under the proposed schemes at Deh Gaggar Dhabeji Range
20	26-03-2022	Sukkur	Bachal Shah	Mr. Arif Ali Jagirani, R.F.O, S.F Range Sukkur	Solangi, Kaleri & Mirani.	20	-	Discus importance of trees, plantation techniques, beneficial human life's and livestock and climate change at the target areas
	23-03-2022		Pakka Goth		Chohan	18	-	
	20-03-2022		Bagirji		Memon & Ghumra	12	-	
	19003-2022		Kalar Goth		Khaki & Chohan	17	-	

	17-03-2022		Maka Goth		Maka	18	-	
21	22-03-2022	Larkana	Mandhra	RFO	Gujhar	19	-	Benefits of Canal side Plantation
	20-03-2022		Ghanghriko Forest	DFO	Wahani	26	-	Benefits of Road side Plantation
	18-03-2022		Dokri		Dokri	15	-	Benefits of Urban Forestry
	17-03-2022		Taggar Village	RFO	Aghani	20	-	Benefits of Road side Plantation
22	29-03-2022	Khairpur	Rasoolpur	Hosh Muhammad Shar DFO (SF) Khairpur alongwith his subordinate filed formation	Shar Baloch & Dahar	15	2	Community session convened with an objective to raise awareness among the stockholders about importance of trees and their conservation and also to share the benefits of ecosystems, services with the village formation under intended tree plantation initiative
23	28/03/2022	Ghotki @Mirpur Mathelo	Jahanpur	Divisional Forest Officer Social Forestry Division Ghotki / Range Forest Officer Range Ghotki & Mirpur Mathelo.	Mahar, Dondho,	6	--	Importance & Benefits of Canal side & Roadside Tree Plantations and its effects on environment & communities
24	25/03/2022	Sujawal	Kharoochan	Mr. Zeshan Ali RFO	Mirbhar	20		Awareness about plantation with respect to current scenario of global warming Opportunities of jobs on to the community members in carrying out the project interventions were also discussed. Discus importance of trees, plantation techniques, beneficial human life's and livestock and climate change
	28/03/2023		Haji Ahmed		Jatt	19		
	29/03/2024		Kaleri Goath		Jatt	20		
	230/03/2025		Umer Jatt		Jatt	15		





## ANNEX 6: Photo Log



**Community Consultation at Kaiti Bundar**



**Community Consultation at Thatta**



**Community Consultation at Gharo**



**Consultation at Sujawal**



**Community Meeting at Hyderabad**



**Community Meeting in Vicinity of Hyderabad**



**Community Meeting with Mangroves Forest Community**



**Consultation with public at Social forestry Division Hyderabad**



**Community Consultation meeting at Noshero Feroz**



**Public Consultation session at Noshero Feroz**



**Public Consultation at Forest division Ghotki**



**Stake holder Consultation at Forest division Ghotki**

## ANNEX 7: Village Profile Survey Form

ID# \_\_\_\_\_

### DISASTER AND CLIMATE RESILIENCE IMPROVEMENT PROJECT ENVIRONMENTAL AND SOCIAL ASSESSMENT STUDY

#### 5.1.1.1.1 Village Profile Survey

**(Note: To be collected in a joint gathering of villagers at some central place)**

#### Observations/ Instructions for Facilitator (s)

- "Village" means as defined in census reports. This Questionnaire would be filled in during "Public Consultation"
- All information would be filled in concerning to the settlement and not for the whole village.
- Separate "Public Consultation" would be conducted at each settlement to cover each village.
- Settlement means forming the part of village irrespective of size and structure.
- The checklist provided separately will be used for one/ each settlement
- When starting the Public Consultation please introduce yourself and explain the purpose of the survey and the project.
- Introduce the Project details to the participants during the scoping session.
- Take attendance of all the participants on the attached attendance sheet.

#### 1. Location:

(i).Village \_\_\_\_\_ (ii).Union Council \_\_\_\_\_

(iii).Tehsil \_\_\_\_\_ (v).District \_\_\_\_\_

2. Total Households: \_\_\_\_\_ Total Population: \_\_\_\_\_ (i) Male \_\_\_\_\_ (ii) Female \_\_\_\_\_

3. Type of Construction: (i). Katcha \_\_\_\_\_ (ii). Semi Pacca \_\_\_\_\_ (iii). Pacca \_\_\_\_\_

4. Type of Family: (i). Nuclear \_\_\_\_\_ (ii). Joint \_\_\_\_\_

5. Local Status: (i). Settler \_\_\_\_\_ (ii). Indigenous \_\_\_\_\_

#### 6. LANGUAGES SPOKEN IN THE VILLAGE:

(i) \_\_\_\_\_ (ii) \_\_\_\_\_ (iii) \_\_\_\_\_ (iv) \_\_\_\_\_

#### 7. Major Castes and Ethnic Groups in the Village:

Sr. No	5.1.1.1.2 Caste/Ethnic Group	Households
1.		
2.		
3.		
4.		
5.		
6.		

8. Vulnerable Population: i. Widows \_\_\_\_\_ ii. Handicapped \_\_\_\_\_ (iii).Landless \_\_\_\_\_ (iv). Others \_\_\_\_\_

**9. Religious Affiliation:**

Sr. No.	Religion	Households	Percent
1	Muslims		
2	Christians		
3	Other (specify)		

**10. Physical Accessibility:**

(i) Metalled road: \_\_ km. (ii) Un- metalled road: \_\_ km (iii) Means of transport: \_ (iv) Nearest Grain Market: \_\_ km.

**11. Source of Drinking Water:**

Hand pump \_\_\_\_\_ Well \_\_\_\_\_ Spring \_\_\_\_\_ Tapped water (Govt.) supply \_\_\_\_\_ any other (specify) \_\_\_\_\_

**11.1** Mode of Irrigation: i. \_\_\_\_\_ ii. \_\_\_\_\_ iii. \_\_\_\_\_

**12. Institutional Facilities:**

Sr. No	Facility	Yes	No	Remarks
1	Hospital			
2	Dispensary			
3	BHU/RHU			
4	Private Practitioner			
5	Veterinary Dispensary			
6	Artificial Semi nation Center			
7	Post Office			
8	Bank			
9	Police Station/Post			
10	Any other (specify)			

**12.1** What options are available in case of emergency? \_\_\_\_\_ of

**12.2** Common Diseases:

(i). Children related: \_\_\_\_\_ (ii). Women related: \_\_\_\_\_ (iii). Men (adult) related: \_\_\_\_\_

**12.3** Common Diseases in Animal:

(i) \_\_\_\_\_ (ii) \_\_\_\_\_ (iii) \_\_\_\_\_

**13. Educational Facilities:**

Sr. No	Facility	Yes	No	Remarks
1	Primary School	Boys		

		Girls			
2	Middle School	Boys			
		Girls			
3	High School	Boys			
		Girls			
4	Dini Madrissah	Boys			
		Girls			

13.1 Place of higher education: i. Distance \_\_\_\_\_ ii. Place \_\_\_\_\_

13.2 Educational Attainment:

5.1	Male	Female	Total
Post Graduates			
Graduates			
Intermediate			
Metric			
Middle			
Primary			
Religious Education			
Illiterate			
Other			
<b>Total:</b>			

14. Civic Facilities:

Sr. No	Facility	Yes	No	Remarks
1	Water Supply			
2	Lined Drainage System			
3	Sewerage System			
4	Electricity			
5	Telephone (lined/mobile)			
6	Grocery Shops			

Sr. No	Facility	Yes	No	Remarks
7	Medical Stores			
8	Any other (specify)			

**15. Cultural and Religious Properties.**

- (i) Mosque: a). Yes \_\_\_\_\_ b). No \_\_\_\_\_
- (ii) Shrine: a). Yes \_\_\_\_\_ b). No \_\_\_\_\_
- (iii) Urs / Mela: a). Yes \_\_\_\_\_ b). No \_\_\_\_\_  
If yes (specify) \_\_\_\_\_
- (iv) Recreation/ Games: a). Yes \_\_\_\_\_ b). No \_\_\_\_\_
- (v) Graveyard: a). Yes \_\_\_\_\_ b). No \_\_\_\_\_
- 5.1.1.1.4 (vi) Archaeological Monument: a). Yes \_\_\_\_\_ ii.  
No. \_\_\_\_\_
- 5.1.1.1.5 If yes (specify): i. \_\_\_\_\_ ii. \_\_\_\_\_ iii.  
\_\_\_\_\_
- (vii) Any other (specify) \_\_\_\_\_

**16. Occupational Structure:**

Sr. No.	Occupation	Households	Percent
1	Farming		
2	Govt. Service		
3	Private Service		
4	Own Business		
5	Labour		
6	Any other (specify)		

**17. Income:** Average farm income per household: \_\_\_\_\_ Average off-farm income per household: \_\_\_\_\_

**18. Land Use:**

- (i) Total area (acres) \_\_\_\_\_ (ii) Cultivable area (acres) \_\_\_\_\_ (iii) Cultivable (acres) \_\_\_\_\_ (iv) Cultivable Waste (acres) \_\_\_\_\_  
v. Barren (acres) \_\_\_\_\_

**18.1 Farm Size:**

Sr. No.	Farm Size	Households
1	Small (1 to 12.5)	
2	Medium (12.5 to 25)	
3	Large (+25 )	

**18.2 Tenure Status :**(i). Owner \_\_\_\_\_ (ii). Owner cum Tenant \_\_\_\_\_ (iii). Share Cropper \_\_\_\_\_  
(iv). Cash Leases \_\_\_\_\_

**18.3 Main Crops:**

Sr. No.	Rabi (Winter) Crops	Yield/acre (kgs)	Price in Market/40 kg	Yield Sell in Market (kgs)	Kharif (Summer) Crops	Yield/acre (kgs)	Price in Market/40 kg	Yield Sell in Market (kgs)
1								
2								
3								
4								
5								

**18.4 Prevailing Agricultural Implements**

Sr. No.	Items	Nos.	Year of Purchase	Present Value
1	Tractor			
2	Fodder Cutter			
3	Sewing Machine/Drill			
4	Harvesting Machine			
5	Thresher			
6	Sprinkler			
7	Spray Pump			
8	Land Leveler			
9	Scrapper			
10	Others			

**18.5 Orchards:**

Sr. No	Type of Orchards	Area
1		
2		
3		

**19. Livestock Heads:**

Sr. No.	Heads	Numbers



1	Cows	
2	Buffaloes	
3	Goats/Sheep	
4	Ox	
5	Other	

**20. Gender Component:**

(i) Do women participate in agriculture activities? 1. Yes\_\_\_\_ 2.No.\_\_\_\_\_ if yes (specify) \_\_\_\_\_

(ii) Women participation in Income generating activities?

Stitching \_\_\_\_\_ 2.Embroidery \_\_\_\_\_ 3 Any other \_\_\_\_\_

**21. Village Organization:** 1. Yes \_\_\_\_\_ 2. No \_\_\_\_\_ If yes (Give Details).

Sr. No.	Name	Objectives	Membership Nos.	Status Registered/ Unregistered	Nature		Work already done (Type)
					Male	Female	
1							
2							

**22. Leadership Pattern:**

Who are the influential in the village? \_\_\_\_\_

**22.1** How important issues and disputes of the village are settled?

- i. Panchayat. \_\_\_\_\_ ii Head of Family. \_\_\_\_\_  
 iii. Police / Court. \_\_\_\_\_ iv. Any other (specify) \_\_\_\_\_

**23. Migration Pattern:**

**23.1** Did there any migration occurred in village during last year?

i. Yes \_\_\_\_\_ ii. No \_\_\_\_\_ if yes number of persons: \_\_\_\_\_

**23.2** Did there any migration-out occurred in the village during last year?

i. Yes \_\_\_\_\_ ii. No \_\_\_\_\_ if yes number of persons: \_\_\_\_\_ Destination: \_\_\_\_\_

**24. Flood Control /Disaster System:**

i. Yes. \_\_\_\_\_ ii. No. \_\_\_\_\_ if yes, give details: \_\_\_\_\_

**25. Does any industry / cottage industry exist in / nearby village?**

i. Yes. \_\_\_\_\_ ii. No. \_\_\_\_\_ if yes give details \_\_\_\_\_

**26. What are the prevailing rates of the following?**

- i. Average price per 40 kg. Fire wood \_\_\_\_\_ ii. Timber wood \_\_\_\_\_  
 iii. Tractor per hour / acre. \_\_\_\_\_ iii. Ploughing. \_\_\_\_\_ iv. Planking. \_\_\_\_\_ v. Land leveling. \_\_\_\_\_  
 vi. Average labor rate per day. Unskilled \_\_\_\_\_ Skilled \_\_\_\_\_  
 vii. Average price of Land: Cultivated: \_\_\_\_\_ Uncultivated: \_\_\_\_\_ Residential: \_\_\_\_\_

27. What are the main problems of the village?

\_\_\_\_\_

28. What Impacts of the Project do you perceive?

**Positive:**

\_\_\_\_\_

**Negative:**

\_\_\_\_\_

**Date:** \_\_\_\_\_ **Name of Interviewer:** \_\_\_\_\_

**Village Name:** \_\_\_\_\_ **Meeting Place:** \_\_\_\_\_

**List of Participants**

<b>Sr. No.</b>	<b>Name</b>	<b>Father's Name</b>	<b>Occupation</b>	<b>Contact No.</b>
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

<b>14</b>				
<b>15</b>				
<b>16</b>				
<b>17</b>				
<b>18</b>				
<b>19</b>				
<b>20</b>				

## ANNEX 8: A Sample VLD Form

The following agreement has been made on ..... day of ..... between Mr./Ms. ...., aged ....., resident of ..... zone, district ..... (the Owner) and ..... (the Recipient/Subproject Proponent).

1. That the land with certificate no..... is a part of ....., is surrounded from eastern side by....., western side by....., northern side by ....., and southern side by.....
2. That the Owner holds the transferable rights of land ..... (area in square meters), with plot no..... at the above location (include a copy of the certified map, if available)
3. That the Owner testifies that the land/structure is free of squatters or encroachers and not subject to any other claims.

3.1 That the Owner hereby grants to the..... (name of the Recipient) this asset for the construction and development of the .....for the benefit of the community.

3.2 That the Owner will not claim any compensation against the grant of this asset nor obstruct the construction process on the land in case of which he/she would be subject to sanctions according to law and regulations.

3.3 That the .....(name of the Project Proponent) agrees to accept this grant of asset for the purposes mentioned.

**Name and Signature of the Owner**

**Signature of Subproject**

**Proponent/Representative**

.....

.....

**Witnesses:**

1.....

2.....

(Signature, name and address)

## ANNEX 9 Memorandum of Agreement

This **Memorandum of Agreement (MOA)** entered into by and between;  
The FIP/Department -----as represented by the Office of -----;  
---AND---

The community of \_\_\_\_\_(Name of Ward), \_\_\_\_\_  
(District), in the Province of \_\_\_\_\_ represented by its wards leaders, tribal  
head, leaders of clans and sub-clans, the names of which are enumerated at the end of this  
document;

---WITNESSETH---

**Whereas**, the Department/ FIP -----is implementing the -----(the Project) in  
order to support achieving the objective of (Scheme purpose) -----, with the  
financial assistance from NDRMF and other development partners;

**Whereas**, \_\_\_\_\_(the subproject site) has been selected by the Community-----  
-which requires the use of non-state/customary land as there are no suitable state lands  
available in the sub Projectpilot area;

**Whereas**, the clans and communities who jointly own the land identified for the subproject  
intervention are fully (i) aware of the subproject benefits for their communities, mainly improved  
resilience to disaster management (ii) supportive of the proposed intervention; and (iii) are  
willing to provide voluntarily the use of identified land for subproject activities.

**NOW, THEREFORE**, for and in consideration of the foregoing premises and covenants  
hereinafter stipulated, FIP (Department Name) -----and the clans and  
communities who jointly own the customary land that is required for the subproject intervention  
have entered into this agreement:

### 1.0 Identification and Location of the intervention

1.1 (FIP)-----has considered the subproject intervention \_\_\_\_\_ under the  
NDRMF financing. This site has an area of \_\_\_\_\_square metres.

1.2 We certify that we, as individuals and representatives of our communities and clans, are the  
exclusive customary owners of the subproject location. The particulars of our customary land  
are described below;

Location (name): \_\_\_\_\_

Ward: \_\_\_\_\_

District: \_\_\_\_\_

Province: \_\_\_\_\_

Name and Signature of the Owners

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Signature of Subproject**

**Proponent/Representative**

Witness (1)

-----

-----

Witness (2)

-----

## Annexed 10 ES Customized Checklist

### E&S Screening Checklist

Restoration of Riverine, Inland, Mangroves, Dry-land and Urban Forests

Ecosystems of Sindh Province (RRIMDU)

#### SECTION 1: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
District				
Component of project and activity				
Implementation arrangements (Name and contacts)	Project Director PIU	Deputy Project Director (PIU)	E&S Specialist (RRIMDU)	Community/Contractor
SITE DESCRIPTION				
Name of site Union Council				
Describe site location/Village Name Location/ site map	Please attach the GIS Maps with Land use demarcation/GPS locations If available attach with this checklist, if not take google image and mark the location with coordinates.			
Land Requirement for project Activities in Acres				
Land Ownership Status.	(In case of Govt. Land Annex Land Ownership Certificate and in case of private Land Annex Voluntary Land Donation (VLD) Proceedings (If Land is partially state and partially Private please provide the details)			
(Land Type and current land use	(Agriculture Land. Mountainous region Road Side etc)			
Important geographic / topographic feature if any				

Important biological feature if any	( protected area, endangered species both flora and fauna, medicinal plants and other species)
Important socio-economic feature if any	( any social sensitive issue or concern)
Distance of project interventions from the sensitive receptors	(mosque, temple, church, graveyard, hospital, school)
<b>Sustainability</b>	
Does Village Organization (VO) exist?	
If yes, is it registered? (With Department Name)	
Membership of VO as % of total households in the village	
Nos of HHs in village	
Total Estimated Population of the village	
Community Engagement Mechanism	TOP ( term of partnership) Any other
<b>LEGISLATION</b>	



SEPA NOC Required	<input type="checkbox"/> Yes <input type="checkbox"/> No, if Yes, select the required study from below
Study for NOC Required	EIA <input type="checkbox"/> , IEE <input type="checkbox"/> , Environmental Checklist <input type="checkbox"/>
Any other NOC from GoS Required	<input type="checkbox"/> Yes <input type="checkbox"/> No, if Yes, please specify
<b>PUBLIC CONSULTATION</b>	
Number of consultation meetings with community	<input type="checkbox"/> Yes <input type="checkbox"/> No, if Yes, list, Pictures and minutes to be attached Pre, during and post project activities <input type="checkbox"/>
Consultations with line departments of Sindh Govt at District level	<ul style="list-style-type: none"> <li>▪ Sindh Environmental Protection Agency (SEPA) <input type="checkbox"/> </li> <li>▪ Sindh Wildlife Department <input type="checkbox"/> </li> <li>▪ Sindh Agriculture Department <input type="checkbox"/> </li> <li>▪ District Revenue Officer of the respective District</li> <li>▪ Tehsil Municipal Administration (TMA) <input type="checkbox"/> </li> <li>▪ Any other department <input type="checkbox"/> , if yes, mention the name of department</li> </ul>
Consultations with CBO/NGOS	<input type="checkbox"/> Yes <input type="checkbox"/> No, if Yes, please mention the name of CBO/NGOs
<b>INSTITUTIONAL CAPACITY BUILDING</b>	
Will there be any E&S capacity building?	<input type="checkbox"/> Yes or <input type="checkbox"/> No, if Yes, attach E&S capacity building program and community member involved in the project

## SECTION 2: ENVIRONMENTAL/SOCIAL SCREENING CHECKLIST

- Please fill the following checklist.
- In case risk category against any question / parameter is significant the activity/scheme will not be supported under the project.
- In case of moderate or minor risks, mitigation actions will be triggered as given in the last column.
- In case of no / rare risk, no further action is required.

TECHNICAL AREAS/ IMPACTS		E&S IMPACTS SIGNIFICANCE				Remarks
		None/ Rare	Minor/ Small	Moderate/ Medium	Significant/ Large	
		Relevant				
<b>Environmental Parameters</b>						
1.	Impact on soil, landscape, and visual aesthetic (due to vegetation clearance, deep excavations, soil erosion from construction activities, fuel spills, ponding of water, effect to agriculture land, illegal landfilling/disposal of waste, e-waste etc.)					
2.	Impact on surface water and groundwater (mishandling of hazardous substance, release of pollutants and improper waste storage etc.)					
3.	Impact on ambient air quality and air emissions (due to generation of dust from construction activity, vehicular/ machinery exhaust emissions, etc.)					
4.	Noise and vibration (due to vehicular/ machinery movement, construction activities etc.)					
5.	Risk of release of pollutants to the environment due to routine or non- routine circumstances.					
6.	Generation of waste (both hazardous and non- hazardous)					
7.	Does the project include activities that require significant consumption of raw materials, energy, and/or water?					
8.	Are there any protected areas on or around the locations which could be affected by the project?					
9.	Is there any adverse impact on the fauna due to project activities?					

TECHNICAL AREAS/ IMPACTS		E&S IMPACTS SIGNIFICANCE				Remarks
		None/ Rare	Minor/ Small	Moderate/ Medium	Significant/ Large	
10.	Is the planting method including type of species adequate and not disturbing the original ecosystems?					
11.	Are there any associated activities or potential induced impacts associated with the implementation of afforestation/reforestation activities?					
12.	Risks and vulnerabilities related to occupational health and safety (OHS) cause due to physical and chemical hazards, biological (waterborne diseases) hazards, and spread of COVID-19 pandemic and its variants during project implementation and operation.					
13.	Risks to community health and safety due to the transport, storage, and use and/or disposal of waste including construction materials					
14.	Impact on cultural heritage due to project activities					
<b>Social &amp; Gender Parameters</b>						
15.	Elite capture and exclusion of vulnerable and disadvantaged groups (e.g., people living with disabilities, religious, ethnic and marginalized groups when accessing health and education services).					
16.	Impact on Community Water resources or on Communal water					
17.	Risk of Sexual Exploitation and Abuse (SEA), Violence Against Children (VAC), Sexual Harassment (SH), and Gender Based Violence (GBV) for surrounding communities.					
18.	Insufficient outreach and participation of communities in remote areas due to lack of awareness					
19.	Social and gender issues due to the influx of labour by induction of outside labor					
20.	Risk of use of child and force labor in project activities.					

## Land and Land Related Impacts Checklist

	Yes	No	Expected	Remarks
<b>Does the project require land acquisition? Yes/No</b>				
If yes, then screen out				
Name of the department holding the land title. ( Forest Department or any other)				In case of any other department holding the land title, please attached NoC for the proposed site
<b>Is the land free of all incumbency/occupation?</b>				
Will there be any negative livelihood impacts including any access to restrictions?				
<b>Will land be donated voluntarily</b>				
Has the VLD procedure been clearly explained to the land owner, including her / his right to refuse donation?				
Is the contributing household below the national poverty line?				
Is the land to be donated free of any litigations, squatters, encroachers or any other claims?				
If yes, has the owner been made aware of VLD nature and procedure?				
Has the landowner agreed to sign the VLD documents at free will?				
Can the owner produce land title deeds/documents of ownership?				
Are there any tenant on the land?				
If yes, describe number of tenants, gender and type of tenancy and length of residence.				
If yes, are tenants willing to move?				
Will there be adverse impacts on tenants? Describe in remark column				
Are there people using the land for livelihoods, cultural activities?				
If yes, how many people? Gender? Type of activity?				
How will voluntary land donation affect people using the Land?				
Has the land ownership been verified by competent revenue				

official?				
Has the land donation been duly registered in the relevant record?				
Ratio of donated land as % of total land holding of the donor (in case of pvt. Land)				
Is there any Social Conflict arising from displacement of communities				

### SECTION 3: MONITORING PLAN

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
<b>Environmental Parameters</b>							
Soil contamination due to project activities							
Excavation at sub-project site.							
Impacts on flora due to project activities							
Waste management (solid and construction)							
Surface and ground water quality deterioration due to project activities							
Occupational Health and Safety.							
<b>Social Parameters</b>							

<b>Phase</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Cost</b> (if not included in project budget)	<b>Who</b> (Is responsible for monitoring?)
Community Health and Safety							
Participation of the community in Project activities							
Security and Safety of the project surrounding Communal and natural resources.							
Establishment of GRC system at site and at Project head office							
Inclusion of Females and marginal communities in Project activities							
Inclusion of Females and Marginal Communities in GRC System							

## SECTION 4: APPROVAL

FOLLOWING INSTRUMENTS WILL BE DEVELOPED (ON NEED BASIS, IF NOT REQUIRED JUST EXPLAIN)			
Project Categorization according to Environment	A	B	C
Project Categorization according to Social	A	B	C
Project Categorization according to Land	A	B	C
<b>A: Major Impacts</b> <b>B: Moderate Impacts</b> <b>C: Minor/No Impacts</b>			
<b>PLEASE TICK THE RELEVANT SAFEGUARD INSTRUMENT TO BE PREPARED:</b>			
<ul style="list-style-type: none"> <li>• rap</li> <li>• arap</li> <li>• esmp</li> <li>• LIP</li> <li>• IPDP</li> <li>• checklist</li> </ul>			
ANY OTHER REQUIREMENTS			
<b>If there is any critical element regarding use of natural resources, communal resources or land, please elaborate and suggest measure as per WB guidelines</b>			
SCHEME APPROVED:			
<input type="checkbox"/> Yes <input type="checkbox"/> No,  if no please provide reason			

<b>Contractor/Community</b>	<b>E&amp;S Specialist (PIU staff)</b>	<b>Project Director (PIU)</b>
Responsibility for Implementation	Supervision and Oversight	Scheme Approval



## SECTION 5: MITIGATION MEASURES

Ref. No.	IMPACT / RISK	MITIGATION MEASURES CHECKLIST
1	Landscape/Soil/ Vegetation Clearance	<ul style="list-style-type: none"> <li>• Removal of vegetation and trees will be avoided to the extent possible.</li> <li>• Visual Inspection will be carried out for land contamination and dust emissions.</li> <li>• Technical design measures will be incorporated to minimize unnecessary removal of trees and vegetative cover.</li> <li>• Waste will not be disposed in open dump sites or placed in open soil surface.</li> <li>• Do not introduce invasive or exotic species through plantation.</li> <li>• No subproject/ activity will be located in or near environmentally sensitive areas.</li> </ul>
2	Land Use	<ul style="list-style-type: none"> <li>• Only forest department designated land will be utilized</li> <li>• Private land will not be trespassed</li> <li>• Land degradation will be strictly prohibited</li> </ul>
4	Live Stock	<ul style="list-style-type: none"> <li>• Alternate grazing sites will be identified in consultation with the community in case the proposed project site is currently used as grazing ground</li> </ul>
5	Livelihood	<ul style="list-style-type: none"> <li>• Surrounding communities will be given preference in project activities</li> <li>• The surrounding communities will be provided income generating opportunities</li> <li>• Transparency will be ensured on all working sites</li> <li>• Female and marginalized community members will be preferred</li> </ul>
6	Kitchen Gardening	<ul style="list-style-type: none"> <li>• Families living in the surrounding communities will be trained for the kitchen gardening.</li> <li>• Project will promote the kitchen gardening in the surrounding communities</li> <li>• Seeds and manures will be provided for kitchen gardening</li> </ul>

Ref. No.	IMPACT / RISK	MITIGATION MEASURES CHECKLIST
7	Water Quality	<ul style="list-style-type: none"> <li>• Waste will be safely disposed of in demarcated waste disposal sites to avoid affect the drinking water sources, irrigation channels, and natural drainage.</li> <li>• All fuel storage will be properly marked to highlight their contents with a concrete pad underneath to prevent water contamination in case of leaks or spills.</li> <li>• The labor workforce shall be trained in the storage and handling of waste materials encountered during project activities.</li> <li>•</li> <li>•</li> </ul>
8	Air Pollution	<ul style="list-style-type: none"> <li>• Soil and temporary spoil piles will be covered or sprayed with water.</li> <li>• Tractor loads will be covered with any suitable material.</li> <li>• Unnecessary movement of vehicles will be avoided.</li> <li>• Open burning of solid waste shall be strictly prohibited</li> <li>• Raw materials such as cement, gravels and sand will be kept under sheet covers.</li> <li>• Necessary PPEs will be provided to prevent and mitigate exposure to dust.</li> </ul>
9	Waste Management	<ul style="list-style-type: none"> <li>• For general solid waste, site-specific waste management options will be implemented including: <ul style="list-style-type: none"> <li>– Provision of temporary refuse bins at all sites.</li> <li>– Regular collection and environmentally safe disposal of waste</li> <li>– Recycling as far as possible.</li> <li>– Composting of biodegradable waste.</li> </ul> </li> </ul>
10	Resource Efficiency	<ul style="list-style-type: none"> <li>• Quantify the materials, water and energy required for the activities before initiating work.</li> <li>• Use of recyclable and renewable materials in the project activities.</li> <li>• Plan project activities in such a manner that minimizes energy consumption and waste production.</li> <li>•</li> </ul>

Ref. No.	IMPACT / RISK	MITIGATION MEASURES CHECKLIST
11	Elite Capture and Social Exclusion	<ul style="list-style-type: none"> <li>• Ensure meaningful consultations and representation of all stakeholder groups through careful planning as per ESMP</li> <li>• Social inclusion and stakeholder engagement will be adhered to as per the ESMP so that all vulnerable, marginalized, religious and ethnic groups can be represented.</li> <li>• Inclusive, robust and transparent procedures will be followed.</li> </ul>
12	SEA, SH, GBV and VAC	<ul style="list-style-type: none"> <li>• Project workers, government counterparts and other stakeholders will be sensitized GBV, SEA, SH, and VAC.</li> <li>• Local authorities will be involved when handling instances of exploitation.</li> <li>• Development and implementation of grievance redress/ stakeholder response mechanism procedures to ensure timely handling of grievances.</li> <li>• Awareness should be created among the local community including females about the project work.</li> <li>• Raise awareness among the communities of the potential risks of GBV, SEA, SH and establish links with response services in the nearby communities that can respond to instances of GBV</li> </ul>
13	Lack of Awareness	<ul style="list-style-type: none"> <li>• Awareness raising within the community regarding the project activities through information sharing and involvement of communities in the preparation and implementation of project activities.</li> <li>• Strengthen community capacity by providing clear roles and responsibilities under the project activities</li> </ul>
14	Occupational Health and Safety (OHS)	<ul style="list-style-type: none"> <li>• Onsite first aid kits will be kept at project sites and workers will be provided first aid training.</li> <li>• In case of an incident involving injury, the injured will be taken to the nearest medical facility after providing necessary first aid.</li> <li>• Provision of clean drinking water will be ensured for the project workers</li> </ul>

Ref. No.	IMPACT / RISK	MITIGATION MEASURES CHECKLIST
		<ul style="list-style-type: none"> <li>• Do not allow workers with inadequate training to operate vehicle/machinery.</li> <li>• Provision of appropriate and high quality Personal Protective Equipment (PPE) to workers such as gloves, vests, safety shoes, masks etc.</li> <li>• Train workers in the use of PPE and safety measures while working on project sites.</li> <li>•</li> </ul>
15	Child and Forced Labor	<ul style="list-style-type: none"> <li>• Hiring children below the age of 14 for any type of labor, and below the age of 18 for hazardous work will not be allowed</li> <li>• Maintain the labor register for workers at the site, and age verification will be conducted upon employment to make sure that children are not employed in the project.</li> <li>• Awareness raising will be done in local communities regarding child labor and education of children.</li> </ul>
16	COVID-19	<ul style="list-style-type: none"> <li>• Government directives and SOPs regarding COVID management (in accordance with the WHO and World Bank guidelines) will be followed.</li> <li>• Only fully vaccinated people will be allowed to work in project.</li> <li>• Mandatory social distancing requirements as prescribed by the NIH Guidelines for Preparedness of Workplaces for COVID-19 in Pakistan will be followed.</li> <li>• Mandatory requirements for the use of PPE for all project staff will be followed.</li> <li>• Hand wash facilities and alcohol-based sanitizer to all project staff will be provided.</li> </ul>
17	Community Health and Safety	<ul style="list-style-type: none"> <li>• Ensure proper control on project activities</li> <li>• Ensure that the work area is restricted for the entry of irrelevant people particularly children.</li> </ul>

Ref. No.	IMPACT / RISK	MITIGATION MEASURES CHECKLIST
		<ul style="list-style-type: none"> <li>• Close consultation ( as explained in the ESMP) with local communities through CBOs, VO's, any other relevant organization to identify optimal solutions to maintain community integrity and social links.</li> </ul>
18	Communicable Diseases	<ul style="list-style-type: none"> <li>• Reducing the impacts of vector-borne diseases will be accomplished through implementation of diverse interventions aimed at eliminating the factors that lead to disease, which include prevention of larval and adult propagation of vectors, elimination of breeding habitat close to human settlements and by eliminating any unusable impounding of water.</li> </ul>
20	Accessibility Issues	<ul style="list-style-type: none"> <li>• Alternative routes for community should be provided to avoid accessibility issues</li> <li>• Local roads and routs will be kept clear during working</li> </ul>
21	Cultural Heritage	<ul style="list-style-type: none"> <li>• No project intervention will be carried out within the 500 meters of any designated heritage sites</li> <li>• In case of any chance find, work will be immediately stopped and relevant department will be informed.</li> <li>• Social and cultural norms and practices of locals communities will be respected</li> </ul>