GOVT. OF PUNJAB

Environmental and Social Management Framework

PUNJAB TOURISM FOR ECONOMIC GROWTH PROJECT

Punjab Resource Management Program

December 2016

EXECUTIVE SUMMARY

Government of Pakistan and Government of Punjab have planned to implement a Punjab Tourism for Economic Growth Project with strong support from the private sector and civil society. The Chief Minister of Punjab established a Steering Committee on July 7, 2015, to oversee tourism promotion in the province. It is chaired by the Minister of Tourism and comprises senior representatives from relevant government departments, a Member of the Punjab Assembly along with two private sector representatives. A sub-committee was formed in November 2015 with key focal points from the Tourism Development Corporation of Punjab (TDCP), the Evacuee Trust Property Board (ETPB) and District Coordination Officers (DCOs). The DCOs serve as lead persons, or project directors, for the sites in their areas. Finally, the Government of Punjab has also recently set up an Advisory Council comprising distinguished professionals to oversee the overall policy related to the promotion of cultural heritage and project implementation. These proactive initiatives show a commitment to turn this project into an effective vehicle for tourism development.

Background

The Project will finance some low-scale physical interventions to provide improved access, better road conditions and public convenience facilities. In line with the environmental legislation of Pakistan as well as World Bank (WB) Operational Policies, an Environmental and Social Management Framework (ESMF) for the project has been prepared to include environmental and social impact studies for the selected sites to mitigate any negative impact.

This ESMF assesses environmental and social impacts related to the Project, and outlines an Environmental and Social Management and Monitoring Plan (ESMMP) as well as a Resettlement Policy Framework (RPF) to address any adverse potential impacts as a result of this Project. The ESMF includes institutional arrangements required to implement environmental and social aspects and presents monitoring requirements for effective implementation of mitigation measures; describes training needs and specific reporting and documentation requirements; and proposes a third-party validation mechanism. The ESMF also assesses the Physical Cultural Resources (PCR) requirements and guides the preparation of PCR Management Plans, where required.

Project Description

Component 1: Policy, Institutions and Governance for Tourism Development

The first component will address market failures linked to sector coordination failures, uncompetitive markets and legacy information failures. The project activities will support implementation of the new Tourism Policy by: (i) reforming and strengthening public institutions mandated with sector regulation and governance aimed at improving market competition; (ii) improving tourism data collection and strengthening sector coordination between federal, provincial and local authorities, including relevant authorities, and tourism industry associations, religious institutions and civil society; (iii) improving management and the protection of sites by developing management plans; and (iv) improving partnerships and knowledge by improving the quality of information about the sites, their cultural significance, and facilities within and around the sites that can be accessed by visitors .

Component 2: Private Investment and Entrepreneurship Promotion

The second component will address pockets of uncompetitive markets as well as missing markets associated with public ownership of commercial properties and services. It will promote positive

externalities linked to people-to-people contact and a better informed local population. The project activities will address: (i) weak capacity for facilitation and promotion of private investment in the tourism sector; (ii) insufficient options and quality of training in tourism-related institutes of learning; (iii) weak cooperation and product coordination between tourism and other important market segments; and (iv) entry barriers affecting female labor force participation.

Component 3: Public Investment Facility

The third component will provide public goods to improve access to the historical, leisure, cultural heritage sites and reduce negative externalities such as over-crowding and site-specific environmental degradation. The project activities will seek to address: (i) poor access to some sites (access roads, parking, and select border facilities); (ii) health and safety concerns for visitors; and (iii) potential strains on basic infrastructure and services resulting from a projected increase in the number of visitors. It will finance technical assistance, equipment and works to improve secondary and tertiary road access, upgrade and build new parking areas, and install tourist and family friendly facilities along the main transport network and near the sites (but not within any of the sites/compounds themselves).

Component 4: Project Management, Monitoring and Evaluation

The fourth component will finance a Project Implementation Unit (PIU) in charge of project management and daily implementation of project activities, including procurement, financial management, safeguards management, monitoring and evaluation (M&E), communications, community outreach and stakeholder consultations. It will also finance TA to embed international expertise to prepare and monitor implementation of activities on a needs basis.

Project Area

The main sites selected under this project are located across four districts in Punjab.

1. District Rawalpindi – Mankiala Stupa, Taxila Museum, Julian Remains
2. District Chakwal – Katas Raj
3. District Gujranwala – Gurdwara Rori Sahib
4. District Sheikhupura – Gurdwara Sacha Sauda Sahib

Environmental and Social Baseline

Physical location, climate and land use

The project sites vary in location from being situated in northern to central districts of Punjab. The climatic and other associated conditions vary thus across the project sites. Rawalpindi and Chakwal are rain-fed, with higher precipitations during July-August period, with a hilly terrain, and high variations in elevation, supporting scrub to coniferous forests. Land use patterns show agriculture as the primary land use, followed by forest area and built-up area. Project sites are in peri-urban areas, surrounded by agricultural fields and low level built-up structures. Gujranwala and Sheikhupura, on the other hand, are canal irrigated, with high precipitation during months of May-September, supporting plain and flat lands highly suitable for agriculture. Hence the primary land use is agriculture in these districts. The project sites in these districts are surrounded either by agricultural lands or by densely populated areas.

Biodiversity, habitat and environmental sensitivity

In comparison, northern districts of Rawalpindi and Chakwal have a higher percentage of forest cover as well as naturally occurring habitats, which support several wildlife species, as compared to the central districts of Gujranwala and Sheikhupura which are primarily agricultural areas having minimum natural habitats left that can support wildlife. None of the project site is near a habitat of a critical wildlife species nor is in the proximity of a protected area of any classification. The highest concentration of wildlife is in Districts Chakwal and Rawalpindi. The target districts have the following types of wildlife. However, there is limited presence of wildlife in the project areas.[1]

- Rawalpindi – Leopard, Monkey, Leopard Cat, Barking Deer, Pangolin, Goral, Fox
- Chakwal – Fox, Striped Hyena, Common Peafowl, Partridge, Flamingo
- Gujranwala – Grey Partridge, Waterfowl, Hog Deer
- Sheikhupura – Hog Deer, Quail, Wild Boar

Surface and Groundwater Resources

Punjab is blessed with numerous large, medium and small sized rivers, with ample groundwater resources in the central districts. Rawalpindi gets its water mainly from River Jhelum and Soan, while Chakwal's main source is Soan River, along with its several tributaries. Gujranwala is fed by River Chenab while River Ravi flows through Sheikhupura. In addition to these two rivers, several large to medium sized canals also service these central districts, playing a pivotal role in groundwater recharge. Although the districts are blessed with surface water resources, groundwater pumping is common to meet agricultural as well as domestic water requirements. This pumping is indiscriminate, putting an undue pressure on the groundwater tables.

Physical Cultural Resources

Punjab has been home to many different cultures, religions and civilizations. These include Gandhara in the north, Sikhism and Hinduism across the province as well as high imprints of Buddhist, Mughal, Rajput and Sikh dynasties. This rich history has resulted in occurrence of various physical cultural resources depicting varied physical conditions, with some being well kept while others dilapidated. This project will have an impact on selected sites, with an aim to improve the management and governance of the same.

Socio-economic Profile

The total population of the four target districts at the time of the 1998 Population Census was 11,000,000. Chakwal has the lowest population of 1,000,000, while Gujranwala, Sheikhupura and Rawalpindi have similarly sized populations of over 3,000,000. Chakwal and Sheikhupura are mainly rural districts, with 74% of the population in Sheikhupura and 88% of the population in Chakwal residing in rural areas. In Gujranwala and Rawalpindi, almost half of the population resides in urban areas.

Though all four districts are predominantly agricultural, both Gujranwala and Rawalpindi have a heavy presence of industry in the urban areas, ranging from large scale industries such as oil refineries and steel mills, to small and medium industries. The main agricultural crops grown in the rain fed districts

[1] Forest, Wildlife and Fisheries Department, Government of Punjab (fwf.punjab.gov.pk)

of Rawalpindi and Chakwal are wheat, maize and groundnuts, while the canal fed districts of Sheikhupura and Gujranwala grow mainly wheat, rice and sugarcane.

Stakeholder Consultations

Stakeholder consultations were held to gather the concerns and feedback from any persons affected by the project such as the local community, associated department/agencies and other stakeholders. The general concern arising from these consultations is the potential environmental and social issues that may arise during the project activities. This ESMF proposes a strategy for keeping the stakeholders' informed and receiving their feedback at various stages of the project through public consultations at the design, construction and operations stage. This will improve the acceptability of the Project by the local community and also ensure their participation in the process of project development.

Impacts Assessment and Mitigation

A detailed assessment has been carried out for potential impacts associated with the project, including those with environmental and social dimensions. The assessment has been done for design, construction and operation phase, and accordingly mitigation measures have been proposed. A detailed Environmental Management and Monitoring Plan has been proposed which suggests mitigation measures, monitoring parameters and responsibilities.

Impacts associated with biodiversity, air quality, soil, solid waste, labor health and safety, public convenience and safety, PCR and land acquisition were assessed for design, construction and operations phase. The impacts were found to be from low to medium in nature, given that the potential impacts are highest for Component 3 Public Investment Facility, specifically, Sub Component 3.1 Secondary and Tertiary Road Access, and Sub Component 3.2 Public Convenience Facilities and Basic Services.

For these components, most of the impacts are expected during construction phase of the sub-projects. The anticipated impacts are mostly temporary, localized, and reversible in nature, and with the help of appropriate mitigation measures, these potential impacts can be adequately addressed. Impacts related to solid waste, labor health and safety, public convenience and safety, PCR and land acquisition (mostly temporary and small scale) were found to be of medium magnitude, but due diligence is required to mitigate the same.

The major potential adverse impacts associated with construction of access roads include possible cutting of old trees that fall within the ROW, which will need to be compensated through planting of new trees of local, indigenous species. Introduction of exotic and/or invasive species will be strictly prohibited. Improper waste disposal from the construction site as well as labor camps can lead to various public health concerns including worsened air quality due to waste burning, breeding grounds for vectors, and/or clogging of drains and pollution of subsurface water. A robust solid waste management plan will need to be put in place for construction material as well as for the domestic waste produced by labor camps. Workers' health and safety plan will be prepared for road construction labor, in order to safeguard them from any adverse impacts while handling heavy machinery and toxic material (if any). Construction activities and increased traffic due to upgraded road facilities may impact public safety of surrounding communities. Placement of workers camps next to communities' living areas may result in inconvenience, noise and conflict. Proper signage for construction phase, alternative routes and location of labor camps at appropriate distance from local settlements are some of the mitigation measures. Upgrading roads is not expected to involve land acquisition. However, some proposed roads are mostly surrounded by agricultural lands or by populated settlements, hence there is a chance that some land acquisition most likely on a temporary basis may occur. A RPF has been

prepared to mitigate and tackle the associated issues. Since these roads are in proximity to PCR, there is a possibility of chance finds while digging and excavating. A procedure for reporting chance find has also been proposed.

For building public convenience facilities and basic services, most of the associated potential adverse impacts are similar to the ones mentioned above for access roads. The project areas are located in agricultural irrigated lands and in populated peri-urban areas. There is a presence of rivers and streams near the main sites. The communities in these areas use hand pumps and wells as a source of municipal water (for drinking, washing, bathing, etc.). The sub-component includes construction of washroom facilities around main sites and improvement in existing facilities. Improper design of toilets and sewage treatment and disposal systems can lead to surface, sub-surface and ground water contamination. Location of construction sites near rivers and streams can cause contamination from construction waste. Using proper toilet and sewage designs, avoiding disposal of untreated effluent into freshwater bodies and locating toilets at safe distances are some of the mitigation measures proposed. During the upgradation process (construction activities) of arrival lounges and terminals, the regular visiting and influx of tourists especially at religious festivals can result in greater inconvenience and disruption for the general public (including the visitors). Once operational, a large concentration of people in a confined area can result in a high number of casualties if there is an emergency of any sort (fire, earthquake etc.). Alternate arrival and lounging arrangements, fire safety plans and emergency response plans for construction and design phase have been proposed. Land acquisition may be required if these facilities will be extended. A RPF has been prepared to mitigate and tackle the associated issues.

A detailed Environmental and Social Management and Monitoring Plan has been developed which will guide the project through the design, construction and operations phases, by highlighting the potential impacts, mitigation measure, monitoring parameters and frequency, along with responsibilities.

Resettlement Framework

The project activities under Component 3 may require some land acquisition. To address the impacts of this, a RPF has been prepared in accordance with the World Bank Operational Policy on Involuntary Resettlement (OP 4.12). The RPF guides the preparation of Resettlement Action Plans (RAP) in case land acquisition or resettlement may occur. RPF includes measures to inform, consult and provide prompt and effective compensation to all Project Affected Persons (PAPs) for losses of assets attributable directly to the project. The RPF includes details of entitlements as applicable for PAPs losing land, structures, other assets and incurring income/livelihood losses and support through the transition period, and development assistance. These affected persons are eligible for rehabilitation subsidies and for the compensation of lost land, structures and utilities along with loss of livelihood. There will also be special provisions for vulnerable displaced persons.

Institutional Arrangements

The implementation of the ESMF will fall under the overall supervision of the Project Director, Project Implementation Unit (PIU), housed in the Punjab Resource Management Program (PRMP). The Project Director will be responsible for the implementation, monitoring and reporting of the ESMMP through the Environment Safeguards Officer. The Social Safeguards Officer will ensure implementation of the RPF and any other social safeguards related measures with the support of a Gender Specialist, Grievance Redress Mechanism (GRM) Specialists and Social Mobilizers. The Project Implementation Consultants (PIC) will be carrying out construction work through contractors and will also be responsible for supervision of the contractors work on the sites. At the site level, the

DCOs will be responsible for execution of the sub-project and will also be involved in monitoring of ESMF implementation. Detailed roles and responsibilities of the project team are provided in the ESMF.

Monitoring and Reporting

A robust system of internal and external monitoring of the ESMMP and RAP will be required throughout the life of the project. In addition to monitoring by the Environment and Social Safeguards Officers, the Project Coordinator will play a pivotal role in monitoring implementation of the ESMF especially where technical designs and construction related impacts are involved. In addition, Monitoring and Evaluation Officer and DCO can also be requested to conduct random monitoring of construction sites in the project areas, both during construction and operation. Reports of these monitoring visits will be submitted to the Environment Specialist in the PIU.

External Monitoring will be used to ensure that both construction and the operation phase activities have been undertaken in line with the ESMF. Third Party Validation (TPV) exercises, conducted through an independent monitoring agency will be carried out on annual basis to evaluate the overall ESMMP compliance and implementation progress, and to ensure that the mitigation measures are implemented as per the mitigation plan. For the RAP (if required for any sub-project), external monitoring will be carried out twice a year, and its results will be communicated to all concerned PAPs, the PRMP/PIU and World Bank through quarterly and semi-annual reports. Sub-projects whose implementation time-frame will be under 6 months will be monitored on quarterly basis.

Quarterly Progress Reports (QPRs) will be compiled by the Environment and Social Safeguards Officers, and shared with the Project Director and World Bank. These reports will provide progress on implementation of mitigation measures, safeguard monitoring, capacity building, and any other Environmental and Social Management and Monitoring Plan (ESMMP) implementation activity carried out during the reporting quarter, and will propose mid-course correction actions. The Social Safeguards Officer will prepare monthly reports on social aspects and RAP implementation activities and submit to the Project Director. Quarterly progress reports on RAP progress will be shared with the World Bank.

Capacity Development and Trainings

Capacity building and training of the staff associated with EMP and RAP implementation will be required for effective environmental and social management. Specific trainings on environmental impacts and mitigation will be arranged for the relevant PIU staff to deliver their monitoring responsibilities in an organized and effective manner as per requirement of the monitoring plan. Trainings will also be held for contractors, sub-contractors, architects, supervision consultants, local authorities and local communities.

Budget for ESMF Implementation

A budget for implementation of the ESMF has been proposed. This includes capacity development and training costs over the course of the project, budget for External Monitoring/Third Party Validations, and a budget for mitigation activities, set at 2% of the total project cost. The total budget for trainings, monitoring and mitigation of measures set in the ESMMP is PKR 102 Million over the course of the project. The budget for resettlement and PCR related training is estimated as PKR 4.44 million. In addition, there will be a resettlement budget and financing which will be calculated when detailed RAPs are prepared in line with this ESMF.

Grievance Redress Mechanism

A multi-tier GRM has been proposed in the ESMF. The lowest tier of GRM will be at PIU level and PSC will be the highest forum for resolution of any complaint. At the district level, the DCO will be the Grievance Redress Officer. GRM will provide an easy to access forum for stakeholders to officially launch any complaint (through complaint boxes, by post, via mail, in person etc.) against any project related activities or issues whereby, their complaints will be heard, registered and addressed by the project. The proposed GRM has time bound activities with clearly defined roles and responsibilities.

Disclosure

The ESMF and RPF will be disclosed on the website of PRMP, Government of Punjab, and on the World Bank Info Shop. Hard copies of this ESMF and RPF will also be shared with the Provincial Environmental Protection Agency (EPA), project stakeholders, contractors, Civil Society Organizations etc. A copy of the ESMF and RPF will be placed in the Project Implementation Unit, PRMP for public access. The Urdu translation of the Executive Summary of the ESMF will also be distributed to all relevant stakeholders, especially to the communities in the project areas.

Acronyms

BP	Business Policy
DCO	District Coordination Officer
EA	Environmental Assessment
ECoPs	Environmental Code of Practices
EIA	Environmental Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
EPA	Environment Protection Agency
ESMF	Environmental and Social Management Framework
ETPB	Evacuee Trust Property Board
GDP	Gross Domestic Product
GRM	Grievance Redressal Mechanism
GT Road	Grand Trunk Road
IDA	International Development Association
IEE	Internal Environmental Examination
IEMC	Independent External Monitoring Consultants
LAA	Land Acquisition Act
LAC	Land Acquisition Collector
LVC	Land Valuation Committee
M&E	Monitoring and Evaluation
MIS	Management Information Systems
MVE	Motor Vehicles Examiner
MVR	Motor Vehicles Rules
PEQS	Punjab Environmental Quality Standards
NGO	Non Governmental Organization
OP	Operational Policy
P&DD	Planning and Development Department
PAP	Project Affected Persons
PCR	Physical Cultural Resources
PDO	Project Development Objectives
PIC	Project Implementation Consultants
PIU	Project Implementation Unit
PKR	Pakistan Rupees
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PRMP	Punjab Resource Management Program
QPR	Quarterly Progress Report
R&R	Rehabilitation and Resettlement
RAP	Resettlement Action Policy
RPF	Resettlement Policy Framework
TA	Technical Assistance
TDCP	Tourism Development Corporation of Punjab
TMA	Tehsil Municipal Authority
TPV	Third Party Validation
WASA	Water and Sanitation Authority
WB	World Bank

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CHAPTER 1: INTRODUCTION

1.1 Project Background

Tourism is a large and growing market that Pakistan could better serve to create more and better jobs. Pakistan is home to numerous heritage sites linked to the Indus Valley civilization, a Bronze Age civilization in north-western Pakistan, the Mughal Empire and colonial era monuments. It hosts the holiest sites of Sikhism and many important pilgrimage sites for Buddhists, Hindus and Muslims. In 2014, the direct contribution of travel and tourism in Pakistan was 2.9 percent of Gross Domestic Product (GDP) and the sector supported 1.4 million jobs.[2] The total contribution of travel and tourism was 6.9 percent of GDP and the sector supported 3.5 million jobs. This is significantly lower than in South Asia at large: according to the World Travel and Tourism Council, in 2014, the travel and tourism industry in South Asia generated 9 percent of GDP and supported 5 percent of employment. Approximately 40 percent of the world tourism revenue is linked to religious tourism and this is a market with tremendous potential that Pakistan has hardly started to develop.[3] tourism could be turned into an important income source and engine for employment.

There is strong interest in the Government of Pakistan and the Government of Punjab to implement a tourism for economic growth project and the private sector and civil society are strongly supportive too. The Chief Minister of Punjab established a Steering Committee on July 7, 2015, to oversee tourism promotion in the province. It is chaired by the Minister of Tourism and comprises senior representatives from the Planning and Development Department (P&DD), Tourism, Archaeology and Youth Affairs, Home Affairs, Finance, Construction and Works, the Tourism Development Corporation of Punjab (TDCP) and a Member of the Punjab Assembly. Two private sector representatives have also been invited to join the committee. A sub-committee was formed in November 2015 with key focal points from the TDCP, the Evacuee Trust Property Board (ETPB) and District Coordination Officers (DCOs). The DCOs serve as lead persons, or project directors, for the sites in their areas. Finally, the Government of Punjab has also recently set up an Advisory Council comprising distinguished professionals to oversee the overall policy related to the promotion of cultural heritage and project implementation. These proactive initiatives show a commitment to turn this project into an effective vehicle for tourism development.

The Punjab Tourism for Economic Growth Project will focus primarily on putting in place a stronger foundation for private sector participation in the tourism sector, including through the new Tourism Policy framework, institutional reforms, improved governance, sector coordination, destination management and improved access and tourist facilities. The nascent tourism sector in Punjab is potentially a large niche market that will be developed to demonstrate the benefits that the sector can offer the local economy. An additional financing could be discussed at a later stage if the Government of Punjab wants to deepen its interventions and finds itself in a position to attract and realize much larger private investments, given the more conducive investment climate, and scale up training of in particular youth and women to meet an expected increase in the demand for labor. The International Development Association (IDA) credit of US$50 million and counterpart funding of US$5 million will finance subjects covered by the Punjab Provincial authorities and coordination efforts between the federal and provincial levels.

[2]WTTC Economic Impact 2015 Pakistan Country report.
[3]UN World Tourism Organization.

1.2 Need for the ESMF/RPF

The Project will finance some physical low-scale interventions to provide improved access, better road conditions and public convenience facilities. The project is assigned as ***Category B***, due to the limited environmental and social impacts that could be linked to soil erosion, dust and noise, and social disturbance during civil works. In line with the environmental legislation of Pakistan as well as the World Bank (WB) safeguard policies the PRMP agreed to prepare an Environmental and Social Management Framework (ESMF) for the project including environmental and social impact studies for the select sites to mitigate any negative impact.

This ESMF assesses environmental and social impacts related to the Project, and outlines and Environmental and Social Management and Monitoring Plan (ESMMP). The ESMF includes institutional arrangements required to implement the environmental actions and presents monitoring requirements for effective implementation of mitigation measures; describes training needs and specific reporting and documentation requirements; and proposes a third-party validation mechanism. The ESMF includes a Resettlement Policy Framework to address any land acquisition that may be required for the Project. The ESMF also assesses the Physical Cultural Resources (PCR) requirements and guides the preparation of a Cultural Resources Management Plans where required. Resettlement Policy Framework is included as a part of the ESMF to guide the preparation of resettlement planning instrument, if required for any sub-project.

1.3 Structure of the ESMF

This Environmental and Social Management Framework consists of the following sections:

Section 1 – Introduction to the project and the study
Section 2 – Project description and analysis of project alternatives
Section 3 – Review of national regulatory frameworks and World Bank Safeguard Policies
Section 4 – Assessment of baselines
Section 5 – Stakeholder consultations and disclosure
Section 6 – Assessment of potential environmental and social impacts and proposed mitigation measures
Section 7 – Environmental and social screening
Section 8 – Resettlement Policy Framework
Section 9 –Institutional Arrangements
Section 10 – Budget for ESMF implementation
Section 11 – Grievance Redressal Mechanism
Section 12 – Disclosure

CHAPTER 2: PROJECT DESCRIPTION

2.1 Component and sub-component descriptions

2.1.1 Component 1: *Policy, Institutions and Governance for Tourism Development (US$12mn)*

The first component will address market failures linked to sector coordination failures, uncompetitive markets and legacy information failures. The project activities will support implementation of the new Tourism Policy by: (i) reforming and strengthening public institutions mandated with sector regulation and governance aimed at improving market competition; (ii) improving tourism data collection and strengthening sector coordination between federal, provincial and local authorities, including relevant authorities, and tourism industry associations, religious institutions and civil society; (iii) improving management and the protection of sites; and (iv) improving the quality of information about the sites, their cultural significance, and facilities within and around the sites that can be accessed by visitors . A tourism promotion and marketing campaign will also project a nuanced view of the security risks in Punjab Province. Communication will also address information bottlenecks at the service delivery level that affect how the potential target audience perceive information about cultural heritage sites, interact and engage with different aspects of service provision in the tourism industry in Pakistan, e.g. ensuring awareness and visibility of tourist infrastructure, security, hospitality facilities and amenities around the heritage sites

Sub-component 2.1.1.1: Institutions and Governance (US$4.0mn)

The new Tourism Policy for Punjab Province will focus in particular on the development of tourism and it is expected that it will be adopted before Board approval. This sub-component will finance: (i) Technical Assistance (TA) to develop a Tourism Development Strategy and associated Action Plan aimed at, first, strengthening the institutional framework that underpins the development of a private tourism sector; second, developing a more diversified tourism product to entice tourists to stay longer, spend more money, and visit beyond the traditional tourism high season; and third, the development of stronger enterprise standards linked to quality certification of hotels and tour operators; (ii) TA, training and equipment for implementation of the regulatory reform agenda outlined in the new Tourism Policy; (iii) TA to develop and maintain coordination mechanisms to ensure policy coherence between: federal and Punjab provincial authorities; Punjab provincial authorities and the private sector (through a structured form of public private dialogue); and provincial authorities; (iv) TA, training and equipment for the design and implementation of a new tourism data collection mechanism; and (v) TA for the reform of the TDCP —as outlined in the new Tourism Policy—and its mandate to promote and support private participation in the tourism sector.

Sub-component 2.1.1.2: Management Plans for Tourism Site Development (US$3.0mn)

This sub-component will finance holistic Management Plans for up to ten historical sites, as identified and agreed by the Project Steering Committee, to identify holistic needs and priorities within proximity of the heritage sites. Each Management Plan will be structured around three pillars:

- ***Development*** – covering stocktaking of: (i) land ownership within proximity of the sites; (ii) local supply of accommodation facilities; (iii) infrastructure and basic services (access roads, water, sanitation, solid waste disposal); (iv) the availability of signage, (v) beautification and environmental status; and (vi) tourism amenities and facilities (from availability of public washrooms to restaurants, cafes, souvenir shops) surrounding the sites/compounds. (vi) development of tourism information sources and materials

- ***Organization*** – covering: (i) identification of the relevant stakeholders; (ii) arrangements for data collection of visitors, etc.; (iii) local institutional setup to manage the heritage sites; (iv) arrangements for tourist services (guides, media, commercial facilities); (v) collaborations and linkages with other sites/provinces/institutions/etc.; and (vi) local revenue collection, resource management and transparency. (vii) availability of relevant information resources and materials

- ***Sustainability*** – covering: (i) an assessment of demand and supply of local skills relevant to the tourism sector; (ii) identification and integration of revenue sources, with particular focus on sustainable solutions for continuous maintenance of the sites and new infrastructure; and (iii) surveying of occupancy rates of accommodation facilities, labor income for different tasks, etc.

Priority works identified and approved in the Management Plans will be financed under Component 3 (Public Investment Facility). This work will be executed in consultation with UNESCO to ensure that heritage sites are protected according to international best practice.

Sub-component 2.1.1.3: Knowledge, Partnerships and Tourism Promotion (US$5.0mn)

This sub-component will finance: (i) TA and small equipment for the production of high-quality outreach material, including marketing material for social media/radio/television, maps and tourist information, (ii) TA for the design of a communication strategy and the launch of a marketing and public relations campaign aimed at positioning of Punjab as a hub of various sub-sectors tourism; (iii) TA to develop ownership and management models for tourist information centers, including SMEs and franchise structures, for selected sites; (iv) TA to develop a plan and content and expenses for co-sponsoring with private partners, Pakistani Embassies, and foreign institutions a series of conferences and workshops on a quarterly basis that celebrate aspects of experience associated with Punjab's cultural heritage; (v) participation in key international tourism fairs once promotional material and the institutional setup are ready; and (vi) analytical work of the role of women in the tourism industry, focusing on factors that promote female participation in the labor force, earning potential, flexible working hours and the role of public-private partnerships in promoting greater female participation. This sub-component will be implemented in direct partnership with private partners in the travel and tourism industry.

2.1.2 Component 2: *Private Investment and Entrepreneurship Promotion (US$9.0mn)*

The second component will address pockets of uncompetitive markets as well as missing markets associated with public ownership of commercial properties and services. It will promote positive externalities linked to people-to-people contact and a better informed local population. The project activities will address: (i) weak capacity for facilitation and promotion of private investment in the tourism sector; (ii) insufficient options and quality of training in tourism-related institutes of learning; (iii) weak cooperation and product coordination between tourism and other important market segments; and (iv) entry barriers affecting female labor force participation. For example, the main festivals attract large numbers of visitors that the hospitality industry cannot serve despite the fact that the numbers are subdued due to considerable access barriers. A more strategic, coordinated and private sector-led approach to tackle marked seasonality would help generate more sustainable businesses. Targeted communications and engagement activities will facilitate dialogue among provincial authorities and private sector players, including participation from local hospitality, tourist infrastructure, service providers, entrepreneurs and practitioners from creative and culture heritage industries. A consultative process will engage key sector players through seminars and workshops to facilitate ideas for promotion, investment and local entrepreneurship in tourism.

Sub-component 2.1.2.1: Investment Facilitation and Promotion in Tourism (US$5.0mn)

This sub-component will finance: (i) TA, training and equipment to strengthen and streamline investment promotion, facilitation and aftercare for investment in tourism-related activities. This support will be provided to the Punjab Board of Trade and Investment that will review private investment proposals and support investors in the process of obtaining approvals, permits and licenses; (ii) TA and training to the Public Private Partnerships (PPP) unit of the P&DD to promote private participation in the tourism sector as well as a possible divestiture process of state-owned assets; (iii) TA from private transaction advisors to help identify and invite bids for private concessions for hotel development on private or public land (without resettlement concerns); and (iv) targeted grants on a matching basis to encourage market entry through market research and pre-feasibility studies commissioned by prospective investors. This sub-component will complement activities under Sub-component 1.1 and aim to increase the supply of privately financed accommodation and leisure facilities.

Sub-component 2.1.2.2: Improving Skills Formation and Training (US$4.0mn)

This sub-component will finance TA, training, equipment and minor works to strengthen: (i) institutes of learning, training programs and sector curricula; (ii) training-of-trainers programs; (iii) quality licensing initiatives to support the emergence of professional tour guides, the development of restaurants catering to international tourists, and the emergence of outlets for the sale of food and drinks, souvenir and garment shops, and local handicrafts; and (iv) female labor force participation through identification of impediments to female labor force participation in the sector and skills development programs targeting women, including training on crafts as well as entrepreneurial topics such as financial management, market access and business development; and implementation of a training and communications program to increase awareness of the impact of growing tourism on gender roles and possible implications for women. Partners include the TDCP Institute of Tourism, the Pakistan Institute of Tourism and Hotel Management, the College of Tourism and Hotel Management, the Federal Institute of Tourism and Hotel Management, etc., in addition to smaller establishments in Punjab. Support to existing tourism schools will aim to improve the quality of graduates and training rather than rapidly increase the supply. The demand for skilled manpower will increase over time and rely on the success of other parallel initiatives, such as investment promotion.

2.1.3 Component 3: *Public Investment Facility (US$30mn)*

The third component will provide public goods to improve access to the historical, leisure, cultural heritage sites and reduce negative externalities such as over-crowding and site-specific environmental degradation. The project activities will seek to address: (i) poor access to some sites (access roads, parking, and select border facilities); (ii) health and safety concerns for visitors; and (iii) potential strains on basic infrastructure and services resulting from a projected increase in the number of visitors. It will finance technical assistance, equipment and works to improve secondary and tertiary road access, upgrade and build new parking areas, and install tourist and family friendly facilities along the main transport network and near the sites (but not within any of the sites/compounds themselves).

Sub-component 2.1.3.1: Secondary and Tertiary Road Access (US$15mn)

This sub-component will finance works and associated technical assistance to upgrade several secondary and tertiary roads, including 1 km of the Eminabad-Rori Sahib road, 2 km of the Grand Trunk

(GT) Road-Tope Mankial road, 8 km of the Taxila Museum Mohra Muradu road, and 2 km of the Taxila Museum-Jaulian remains road. Other roads will be identified with development of master plans.

Sub-component 2.1.3.2: Public Convenience Facilities and Basic Services (US$15mn)

This sub-component will finance works, equipment and TA for basic infrastructure such as: (i) parking facilities, washroom facilities and rest areas that are missing around the main sites and along key access roads: (ii) arrival lounges and terminals at Badami Bagh Lahore railway station, Gurdwara Sacha Sauda Sahib and Gurdwara Rori Sahib, including expansions and upgrading of seating, ceiling fans, hand railings and safety barriers; (iii) development of facilities at Toap Mamkila, Rawalpindi; (iv) conversion of the Punjab Archaeology Office at Katas Raj into a tourist center; and (v) priority investments in the master plans under Component 1.2 with the aim of reducing any negative impact of an increase in tourist arrivals on the consumption of surrounding communities. Alternate power supply arrangements will be supported given the shortage of electricity in targeted areas. These interventions will be limited in scope and particular attention will be paid to improve facilities for women, children, elderly and people with disabilities.

2.1.4 Component 4: *Project Management, Monitoring and Evaluation (US$4mn)*

The fourth component will finance a Project Implementation Unit (PIU) in charge of project management and daily implementation of project activities, including procurement, financial management, safeguards management, monitoring and evaluation (M&E), communications, community outreach and stakeholder consultations. It will also finance TA to embed international expertise to prepare and monitor implementation of activities on a needs basis. A support program will be tailored to improve implementation capacity and a specific training program will be developed to build the capacity of staff to understand how growing tourism affects women, specifically focusing on factors that facilitate female entry into the labor force and promote female enterprise development. Training will involve local communities and the private sector to facilitate grassroots-level initiatives and encourage partnerships. It will also cover sustainable development issues in order to promote a shared understanding of the social and economic dimensions of the project.

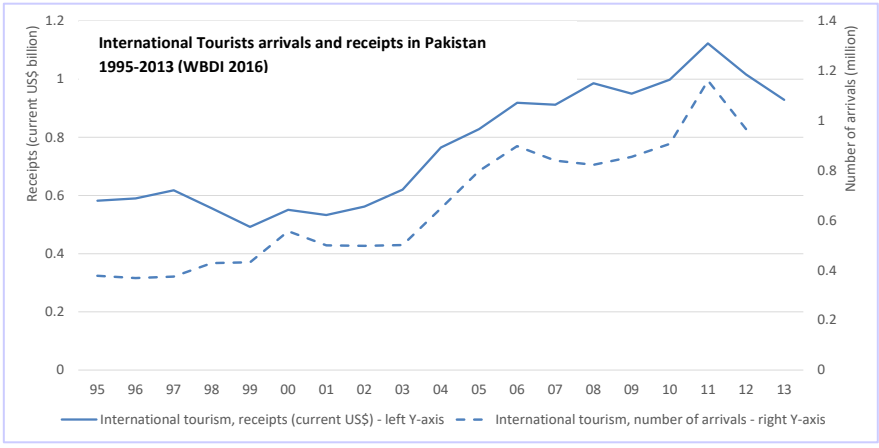
2.2 Analysis of Project Alternatives

The objective of this section is to consider alternatives to the project design so as to ensure that the project has minimum adverse impacts, ensures positive impacts and is sustainable with respect to the suggested location and layout of the project.

Two alternatives have been taken into consideration for the project preparation phase:

2.2.1 *No project option*

World Bank's World Development Indicators highlighted that Pakistan's tourism sector (international tourist arrivals and receipts) has expanded despite continued issues of insecurity. In 1995-2000, the number of tourist arrivals grew by 8 percent annually, while this was 11% in 2003-11, with a peak of 1,161,000 tourists (receipts of USD 1.13 billion) reached at the end of that period. Arrivals dropped by 17 percent in 2012 as a result of a series of domestic terror attacks. While 2013 is also likely to have yielded a decline[4], an improvement in national security in 2015-16 is a positive development that will most likely be reflected in an increase in tourist arrivals. National security has improved in recent years due to great efforts by the government. A continued improvement in the security environment would help strengthen the country's economic growth prospects and over time have a positive effect on the tourism sector.



Cultural tourism-related services (including hotels) are underdeveloped and dominated by state-owned agencies. The private sector would like the public sector to facilitate and help promote tourism development rather than control and manage assets and activities that could be better delivered by the private sector. Some of the citizens' livelihoods are associated with the tourism market around Gurdwara/shrines. The private sector has the potential (including capital and expertise), to ménage the business sustainably. The private sector has currently a very limited role, in catering to the market for pilgrimage tourism, which is dominated by the ETPB[5].

The private sector in the tourism is also concerned about site specific infrastructure, availability of skills and the implementation of rules and regulations in the sector. The infrastructure around many heritage sites is underdeveloped, including access roads, road-side facilities, parking, pedestrian areas and boarding and lodging facilities. Some of the sites are also in poor shape and require preservation. The ETPB has a vision of commercial works[6] for some sites but the plans need to be refined, anchored locally and adequately financed. There is a need of a pro-market tourism policy and incentives to support their investment plans. The private sector will require more clarity with regards to opportunities for public-private partnerships, access to land, permit and license requirements, etc. There is also a

[4]the compound annual growth rate of international tourist arrivals was 11 percent in 2003-11, with a peak of 1,161,000 tourists reached at the end of that period.

[5]The TDCP is running everything from guided bus services to an extensive and expanding hotel network. GoPb is currently developing a Tourism Policy to provide a clear vision of private sector-led growth in the tourism sector.

[6]Renovation works have begun in Panja Sahib (Hasan Abdal) and there are plans to renovate the Kartas Raj Temples. However, coordination and a shared vision between the provincial governments and the ETPB will be needed to execute these plans effectively.

shortage of accommodation facilities. In addition, the challenging visa regime was liberalized in 2012 but the most important reforms have yet to be fully implemented.

Given the project development objective, it should result in strengthening institutional capacity, increase private sector participation and improve infrastructure services for tourism growth in Punjab Province. In case there is no project, tourism development, which is a priority for governments of Punjab and Pakistan, and World Bank, will not be accelerated, which will result in bygone revenues and retard economic growth of the province. Adding to that, the existing pressure on selected sites will worsen the physical conditions of the sites, rendering them undesirable in near future for local and international visitors.

Hence no project option sustains the status quo which is not beneficial for the local economy, private sector and the state.

2.2.2: *Project Site Alternatives*

Alternative project sites are considered when the project location is sensitive to environmental and/or social impacts associated either to the construction works or due to the operation of the facility constructed. This project suggests physical works to improve or rehabilitate existing structures either access roads or public convenience facilities, at some sites, while proposes to select further once the management plans have been prepared. Current project locations are appropriate and relevant as per Project Development Objective (PDO), where the project also commits to consider other tourist sites that have potential contribution to the economic growth of the province. As such there are no serious sensitivities involved with the current site selection.

CHAPTER 3: REVIEW OF NATIONAL REGULATORY FRAMEWORKS AND WORLD BANK SAFEGUARD POLICIES

3.1 National and Provincial Legislations, Regulations and Policies

3.1.1. Punjab Environmental Protection Act, 1997 (Amended 2012)

The Punjab Environmental Protection Act, 1997 (Amended, 2012) is comprehensive legislation and provides the legislative framework for protection, conservation, rehabilitation and improvement of the environment. The 'environment' has been defined in the Act as: (a) air, water and land; (b) all layers of the atmosphere; (c) all organic and inorganic matter and living organisms; (d) the ecosystem and ecological relationships; (e) buildings, structures, roads, facilities and works; (f) all social and economic conditions affecting community life; and (g) the interrelationships between any of the factors specified in sub-clauses 'a' to 'f'.

The notable points of the law are:

- No proponent of a Project shall commence construction or operation unless he has filed an EIA with the Provincial Agency designated by the Provincial EPAs an EIA, and has obtained an approval;
- Establishment and formation of the Punjab Environmental Protection Council;
- Prohibition of certain discharges or emissions;
- Punjab Environmental Quality Standards (PEQS) for wastewater, air emissions and noise; and
- Provincial Government can issue notices and enforce them to protect the environment.

In the recent amendment of 2012, legislatives powers related to environment and ecology are given to provincial governments from the Federal government. The provinces are required to enact their own legislation for environmental protection. Other amendments include increasing the penalties for violations.

For the Project, Environmental Protection Department (EPD)/Environmental Protection Agency (EPA), Government of Punjab (GoPb) is the concerned authority.

3.1.2 Pakistan Environmental Protection Agency Review of IEE & EIA Regulations, 2000.

These Regulations define procedures for preparation, review and approval of environmental assessments. The projects falling under any of the categories listed in Schedule-I require preparation of Initial Environmental Examination (IEE) report, whereas those falling under categories listed in Schedule-II require preparation of at detailed study, the Environmental Impact Assessment (EIA). Schedules I and II can be found in Annex-1. They must be referred to for all civil works to be undertaken as part of this project to ascertain whether and IEE or EIA is required.

3.1.3. Punjab Environmental Quality Standards (PEQS), 2016

The PEQS, 2016 specify the following standards: Detailed PEQS are provided in Annex-2.

- Maximum allowable concentration of pollutants in municipal and liquid industrial effluents discharged into inland waters, sewage treatment facilities, and the sea
- Maximum allowable concentration of pollutants (16 parameters) in gaseous emissions from industrial sources.
- Maximum allowable concentration of pollutants (two parameters) in gaseous emissions from vehicle exhaust and noise emission from vehicles.

In addition, PEQS has also been issued for drinking water, ambient air, motor vehicle exhaust and noise, municipal and liquid industrial effluents, noise and treatment of liquid and disposal of biomedical waste.

3.1.4. Pakistan Penal Code, 1860

This Act defines the penalties for violations concerning pollution of air, water bodies and land.

3.1.5. Motor Vehicle Rules, 1969

Motor Vehicle Rules 1969 (MVR 1969) define powers and responsibilities of Motor Vehicle Examiners (MVEs). The establishment of MVE inspection system is one of the regulatory measures that can be taken to tackle the ambient air quality problems associated with the vehicular emissions during operation phase.

3.1.6. Environment Protection Agency, Punjab

The Environment Protection Department, Punjab created Environment Protection Agency (EPA) which is responsible for the protection, conservation, rehabilitation and improvement of the environment; the prevention and control of pollution; and promotion of sustainable development in the province. The Punjab EPA has a critical role to play in this project. As per regulations, any IEE prepared for this project will have to be submitted to Punjab EPA for an NOC to continue with the work. The Agency must also be given a role during the operational phase of the project to monitor and ensure compliance relevant environmental laws. A list of relevant rules and regulations is provided in Annex 3.

3.1.7. Land Acquisition Act 1894

The Land Acquisition Act (LAA) 1894 is a law for the acquisition of land and implemented to fulfil the needs of government and companies for land required by them for their projects, and secondly, to determine and pay compensation to those private persons or bodies whose land is to be acquired. The experience of the power of acquisition has been limited to a cash compensation policy purposes. The LAA is limited to a cash compensation policy for the acquisition of land and built-up property, and damage to other assets such as, crops, trees and infrastructure. The LAA does not take into account the rehabilitation and settlement of displaced population and restoration of their livelihoods. Presently, the requisite land for the proposed project is already owned by the project proponent, so that no additional private or government land will need to be acquired for the project. The LAA regulates the land acquisition process and enables the provincial governments to acquire private land for public purposes. Land acquisition is a provincial responsibility and provinces have also their own province specific implementation rules. The LAA and its Implementation Rules require that, following an impact

identification and valuation exercise, land and crops are compensated in cash at the current market rate to titled landowners. The LAA mandates that land valuation is to be based on the last 3 to 5 years average registered land-sale rates. However, in several recent cases, the median rate over the past 1 year, or even the current rates, have been applied with an added 15% Compulsory Acquisition Surcharge according to the provision of the law. The project affected persons (PAPs), if not satisfied, can go to the Court of Law to contest the compensation award of the Land Acquisition Collector (LAC).

The various sections relating to the land acquisition are briefly discussed.

- Section 4 refers to the publication of preliminary notification and power for conducting survey. The Section 5 relates to the formal notification of land for a public purpose and 5 (a) covers the need for inquiry. Section 6 refers to the Government makes a more formal declaration of intent to acquire land.

- Section 7 indicates that the Land Commissioner shall direct the LAC to take order for the acquisition of land. The LAC has then to direct that the land required to be physically marked out measured and planned under Section 8.

- Section 9 allows the LAC to give notice to all DPs that the Government intends to take possession of the land. If they have any claims for compensation then these claims are to be made to him at an appointed time, while the Section-10 delegates power to the LAC to record statements of DPs in the land to be acquired or any part thereof as co-proprietor, sub-proprietor, mortgagee, and tenant or otherwise.

- Section 11 enables the Collector to make inquiries into the measurements, value and claim and issue the final "award". The award includes the land's marked area and the valuation of compensation and the LAC has made an award under Section 11, LAC will then take possession and the land shall thereupon vest absolutely in the Government, free from all encumbrances. The section 18 reveals that in case of dissatisfaction with the award, DPs may request the LAC to refer the case onward to the court for a decision.

- Section 23 refers to the award of compensation for the owners for acquired land is determined at its market value plus 15% in view of the compulsory nature of the acquisition for public purposes, while the Section-28 relates to the determination of compensation values and interest premium for land acquisition.

- Section 31 provides that the LAC can, instead of awarding cash compensation in respect of any land, make any arrangement with a person having an interest in such land, including the grant of other lands in exchange.

- Section 35 refers to the temporary occupation of arable or waste land subject to the provision of Part VII of the Act. The provincial government may direct the Collector to procure the occupation and use of the same for such term as it shall think fit, not exceeding three years from the commencement of such occupation.

- Section 36 provides the information relating to the power to entre and take possession, and compensation on restoration. On the payment of such compensation, or on executing such agreement or on making a reference under Section 35, the Collector may entre upon and take possession of the land, and use or permit the use thereof in accordance with the terms of the said notice.

3.1.8. Punjab Land Acquisition Rules, 1983

The Punjab Land Acquisition Rules, 1983, describe the land acquisition procedure for public purposes or for a company. The Punjab Land Acquisition Rules comprises 16 rules pertaining to area notification and surveys, inquiry and award, compensation and apportionment, awards and dispute resolution, and exceptions. Important rules for acquiring land are described below:

- Rule 4. This rule states that the acquiring agency shall submit an application under Rule 3 to the collector of the district concerned on a prescribed form for the acquisition of land. Then, the collector of the district shall examine feasibility of the land acquisition, taking into consideration the genuineness of the public purpose involved.

- Rule 5. According to Rule 5, the collector of the district, after the examination of feasibility, issues a notification under Section 4 stating clearly the details of the area to be acquired.

- Rule 6. In accordance with Rule 6, after the issuance of the notification under Section 4, the collector shall take immediate steps to have the land surveyed and submit a report to the commissioner not later than sixty days from the date of the publication.

- Rule 7. The rule describes the procedure for the issuance of notification under Section 5 by the commissioner, where the land is to be acquired for a public purpose, and the reporting procedure to the BoR in case any delay occurs in the issuance of notification.

- Rule 8. This rule states that where the land is to be acquired for a company, the commissioner, on receipt of the survey report of the collector under Rule 4, forwards the same to the BoR for issuance of notification under Section 5.

- Rule 9. According to Rule 9, objections received under Section 5A by the collector shall be disposed of with least possible delay and along with the recommendations shall be forwarded to the commissioner within a prescribed time limit for decision.

- Rules 10 (1), (2), and (3). This rule states that the commissioner of the division, when issuing a notification under Sections 5 or 17, shall ensure required details for the acquisition of land.

The rules also describe the procedure for land acquisition where a company makes an urgent request for invoking the provision of Section 17 of the act.

It is also mentioned that no land lying near a town, meant for fodder cultivation or for orchards or otherwise cultivable shall be notified for acquisition for the establishment of any industry except if it is declared by the agriculture, health, and industry departments that no risk would be involved due to such land acquisition.

- Rule 11. The rule states that the collector, while forwarding draft notifications under Sections 5 and17 to the commissioner, shall ensure that the certificates, documents, and information mentioned in the act are appended.

- Rule 12. The rule states that the estimated cost of the land worked out under Rule 10(2) is approved by the collector/commissioner/BoR.

- Rule 13. According to Rule 13, the collector or the commissioner may not deliver possession of land sought to be acquired by the department or agency concerned unless sufficient funds for the payment of compensation are placed at the disposal of the collector in advance.
- Rule 14. The rule states that if any land acquired by the department or local authority for public purpose is not used as proposed, that land should be handed over to the collector for disposal by the order of the government.
- Rule 15. Where land has been acquired by a company it shall not be sold or disposed of before the approval of government.
- Rule 16. This rule deals with penalties and states that where land is used for a purpose other than that for which it was acquired by the acquiring agency, it shall be repossessed immediately and the acquiring agency shall be liable to penalty.

3.1.9. Pakistan Antiquities Act 1975 and Punjab Antiquities Amendment Act 2012

The current Antiquities Act 1975 (amended in 1990), redefined as 'ancient' any object that is at least 75 years old. It requires that all accidental discoveries are reported to the federal Department of Archeology. It also makes the federal government the owner of all buried antiquities discovered from any site, whether protected or otherwise. It bans all new construction within a distance of 200 feet from protected antiquities. The cultural heritage laws of Pakistan are uniformly applicable to all categories of sites regardless of their state of preservation and classification as monuments of national or world heritage. The Antiquities Act guarantees that no changes or repairs can be made to a protected monument even if it is owned privately without approval of the official agencies concerned with it. The Punjab Antiquities Amendment Act 2012 adopts the Act of 1975 with a few minor changes.

3.1.10. The Punjab Special Premises (Preservation), Ordinance, 1985

The Punjab Special Premises (Preservation), Ordinance (1985) provides the legal framework for preservation of premises of historical, cultural, archaeological, and architectural value in the Punjab province. This legislation empowers the provincial government to notify heritage sites and sites of cultural and archaeological importance and to prohibit implementation of developmental schemes or new constructions within the notified areas around the special premises. So far 246 sites stand notified under the Punjab Ordinance.

3.1.11. Katchi Abadis Act, 1987

The Katchi Abadis Act covers the urban squatter's rehabilitation rights by providing plots in public resettlement areas or cash assistance. Based on this act, the PRMP will provide rehabilitation compensation to eventual squatters/ encroachers affected by the project.

3.1.12. Land Revenue Act, 1967

Determination of disputes under section 44 of LR Act 1967 sub-section (2) If in any such dispute, the Revenue Officer is unable to satisfy himself as to which of the parties thereto is in possession of any property to which the dispute relates, he shall (a) if he be not below the rank of Assistant Collector of the first grade, ascertain, after an inquiry in which an opportunity shall be given to all the parties, to the dispute of being heard and adducing evidence in support of their claims, who is the person best entitled to the property, and shall by written order direct that the person be put in possession thereof, and that entry in accordance with that order be made in the record or register; and (b) if he be below the rank of Assistant Collector of the first grade, report the matter to the Assistant Collector of the first grade, who shall thereupon proceed in the manner provided in clause (a). (3) A direction under sub-section (3) shall be subject to any decree or order which may be subsequently passed by any Court of competent jurisdiction.

3.1.13. Punjab Alienation of Land Act, 1900

Under section 13, sub-section 11 of Punjab Alienation of Land Act 1900: Any member of an agricultural tribe may make a lease or farm of his land for any term not exceeding twenty years, and any lease or farm made by a member of an agricultural tribe for a longer term than twenty years shall if the lessee or farmer is not a member of the same tribe or of a tribe in the same group, be deemed to be a tease or farm for the term permitted by this section. Under section 13, sub-section 12. (1) During the currency of a mortgage made under section form 6 in form (a) or form (b) or of a lease or farm under this Act, the owner shall be at liberty to make a further temporary alienation of the same land for such term as together with the term of the current mortgage, lease or farm will make up a term not exceeding the full term of twenty years.

3.1.14. Colonization of Government Lands Act, 1912

This Act shall, unless the Provincial Government, otherwise directs, apply to land to which the provisions of the Government Tenants (Punjab) Act 1893, have been applied and to any other land to which the Provincial Government may by notification in the Official Gazette apply it and which at the time of the notification was the property of the Provincial Government ,Provided that unless the Provincial Government by general or special order otherwise directs nothing in Sections 20, 21, 22 and 23, or in the proviso to section 14, of this Act shall, apply to tenancies specified in Schedule I of this Act, or to any class of tenancies created hereafter which the Provincial Government may declare to be scheduled tenancies under this section.

3.1.15. Employment of Child Act, 1991 and Punjab Restriction of Employment of Children Ordinance, 2016

Article 11(3) of the constitution of Pakistan prohibits employment of children below the age of 14 years in any factory, mine, or any other hazardous employment. In accordance with this article, the ECA 1991 disallows such child labor in the country. The ECA defines a child to mean a person who has not completed his/her fourteenth year of age. The ECA states that no child shall be employed or permitted to work in any of the occupations set forth in the ECA (such as transport sector, railways, construction, and ports) or in any workshop wherein any of the processes defined in the act is carried out.

Presently the government of Punjab has enacted a new ordinance titled 'Punjab Restriction of Employment of Children Ordinance 2016' dealing with child labor in the commercial and industrial sectors of Punjab. The act aims at banning children under 15 years of age from certain employment.

3.1.16. Labor Laws

The constitution of Pakistan contains a range of provisions with regard to labor rights found in Part II: Fundamental Rights and Principles of Policy:

- Article 11 of the constitution prohibits all forms of slavery, forced labor, and child labor.
- Article 17 provides for a fundamental right to exercise the freedom of association and the right to form unions.
- Article 18 prescribes the right of its citizens to enter upon any lawful profession or occupation and to conduct any lawful trade or business.
- Article 25 lays down the right to equality before the law and prohibition of discrimination on the grounds of sex alone.
- Article 37(e) makes provision for securing just and humane conditions of work, ensuring that children and women are not employed in vocations unsuited to their age or sex, and for maternity benefits for women in employment.

Pakistan's labor laws trace their origins to legislation inherited at the time of partition. The laws have evolved in response to socioeconomic conditions, shifts in governance, state of industrial development, population and labor force expansion, growth of trade unions, level of literacy, and the government's commitment to development and social welfare.

Under the constitution, labor is regarded as a 'concurrent subject,' which means that it is the responsibility of both the federal and provincial governments. However, for the sake of uniformity, laws are enacted by the federal government, stipulating that provincial governments may make rules and regulations of their own according to the conditions prevailing in or for the specific requirements of the provinces.

The labor laws are a comprehensive set of laws in Pakistan dealing with the following aspects:

- Contract of employment
- Termination of contract
- Working time and rest time
    - Working hours
    - Paid leave
    - Maternity leave and maternity protection
    - Other leave entitlements
- Minimum age and protection of young workers
- Equality
- Pay issues
- Workers' representation in the enterprise
- Trade union and employers association Regulation

- Other laws

3.1.17. Pakistan Labor Policy, 2010

Pakistan's Labor Policy aims at attaining its objectives in a manner best suited to the resources of the country and the present state of economy. There is an urgent need to revitalize the economy to increase the level of productivity, promotion of investment, and maximization of employment. There is an equally genuine requirement to create, among workers and employers, a better awareness of their obligations to the national objectives stated above. At the same time, the government recognizes that workers and employers must enjoy reasonable benefits. With these priorities in view, the government considers that a balanced labor policy should be based on the following objectives:

- Workers' rights to form unions and unions should be protected and an institutional framework be made available to foster close cooperation between workers and employers at the establishment level.
- Equitable adjustment of rights between workers and employers should be ensured in an atmosphere of harmony, mutually beneficial to workers and the management.
- Consultations between workers and employers on matters of interest to the establishment and welfare of workers should be made more effective.
- Adequate security of jobs should be available to workers and there should be expeditious redressal of their grievances.
- Conditions should be created such that workers and employers are committed to enhancing productivity.
- Promotion to higher jobs should be ensured at all levels based on suitability and merit and for this purpose, arrangements should be made for in-service training facilities.
- Facilities for proper matching of job opportunities and job seekers should be strengthened and standard procedures streamlined.
- Social insurance schemes should be further strengthened.
- Just and humane conditions of work should be guaranteed to all workers.
- Forced labor in all its forms is to be eliminated.
- Provisions relating to the employment of children are to be strictly adhered to and enforced.

To address these concerns, the Labor Policy is divided into four parts: the Legal Frame Work; Advocacy: Rights of Workers and Employers; Skill Development and Employment; and Manpower Export.

3.1.18. Local Government Act 2001 and Amended in 2003

These ordinances, issued following the devolution process, establish regulations for land use, the conservation of natural vegetation, air, water, and land pollution, the disposal of solid waste and wastewater effluents, as well as matters related to public health and safety.

3.2 International Laws/Treaties

3.2.1. UNESCO World Heritage Convention

Pakistan is a State Party to the World Heritage Convention. State Parties agree to identify and nominate properties on their national territory to be considered for inscription on the World Heritage List. When a State Party nominates a property, it gives details of how a property is protected and provides a management plan for its upkeep. States Parties are also expected to protect the World Heritage values of the properties inscribed and are encouraged to report periodically on their condition.

3.3 The World Bank Operational Policies

The Project must comply with all World Bank Operational Policies. A list of these policies and their triggering status is provided in Table 3.1 below, followed by a short description of each policy.

Table 0.1: Triggering Status of World Bank Operational Policies

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	Yes	This project has been categorized as 'Category B'. The project activities under Component 3 may potentially cause negative environmental and social impacts. Most of these impacts are likely to be small scale, localized, and reversible in nature. This ESMF has been prepared in accordance with this policy.
Natural Habitats OP/BP 4.04	No	Most of the proposed activities will be carried out in the built-up area or along agricultural areas where natural habitat has long been modified. Therefore the proposed activities are unlikely to affect any natural habitats.
Forests OP/BP 4.36	No	Same as above. Most of the proposed activities will be carried out in the built-up area where no forests exist. Therefore the proposed activities are unlikely to affect any forests.
Pest Management OP 4.09	No	No agriculture related activities are foreseen under the Project
Physical Cultural Resources OP/BP 4.11	Yes	Some of the proposed activities will be carried out adjacent religiously important and historic sites. A PCR Management Plan may need to be developed in pursuance with this policy. Chance find procedures would also need to be in place.
Indigenous Peoples OP/BP 4.10	No	There are no Indigenous People in Punjab where the project will be implemented
Involuntary Resettlement OP/ BP 4.12	Yes	OP 4.12 is triggered as the project will upgrade or provide basic services near cultural and heritage sites in some densely populated or visited areas. Temporary impacts are expected to happen during the execution/construction phase, especially during the improvement of access roads, construction of tourist amenities, provision of basic services (i.e., toilets) to surrounding communities, and upgrading of public spaces.
Safety of Dams OP/BP	No	No dam-related activities are included in the proposed

4.37		project
Projects on International Waterways OP/BP 7.50	No	No works will be carried out at or in any international waterways
Projects in Disputed Areas OP/ BP 7.60	No	No disputed territories as defined in the OP exist in

3.3.1 Environmental Assessment (OP 4.01)

The World Bank requires Environmental Assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. The Operational Policy (OP) defines the EA process and various types of the EA instruments. This project is classified as "Category B" as per the WB safeguards category. Under OP 4.01 this ESMF has been prepared which is defined in the OP as "An instrument that examines the issues and impacts associated when a project consists of a program and/or series of sub-projects, and the impacts cannot be determined until the program or sub-project details have been identified."

This project has been categorized as 'Category B'. The civil works under Component 3 (upgrading roads and tourist facilities) may potentially cause negative environmental and social impacts. Most of these impacts are likely to be small scale, localized, and reversible in nature. This ESMF has been prepared in accordance with this policy. It identifies potential impacts and provides mitigation measures through an Environmental Management Plan.

3.3.2 Natural Habitat (OP 4.04)

This policy seeks the conservation of natural habitats for long-term sustainable development. It supports the protection, maintenance, and rehabilitation of natural habitats and requires a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development.

This OP is not triggered as the proposed activities will be carried out in the built-up area or along agricultural areas where natural habitat has long been modified. Therefore, the proposed activities are unlikely to affect any natural habitats.

3.3.3 Pest Management (OP 4.09)

Through this OP, the WB supports a strategy that promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides.

This OP is not triggered as no agricultural activities are foreseen under this Project.

3.3.4 Indigenous People (OP 4.10)

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 characteristics in varying degrees. For all projects that may affect Indigenous Peoples, the Bank requires the borrower to engage in a process of free, prior, and informed consultation. Bank-financed projects are also designed to ensure that the Indigenous Peoples receive social and economic benefits that are culturally appropriate and gender and intergenerationally inclusive.

The only indigenous people in Pakistan are located in Kalash which is not the part of the Project Area. Therefore, this policy is not triggered.

3.3.5 Physical Cultural Resources (OP 4.11)

The World Bank's general policy regarding cultural properties is to assist in their preservation, and to seek to avoid their elimination. The specific aspects of the Policy are given below.

- The Bank normally declines to finance projects that will significantly damage non-replicable cultural property, and will assist only those projects that are sited or designed so as to prevent such damage.
- The Bank will assist in the protection and enhancement of cultural properties encountered in Bank-financed projects, rather than leaving that protection to chance. In some cases, the project is best relocated in order that sites and structures can be preserved, studied, and restored intact in situ. In other cases, structures can be relocated, preserved, studied, and restored on alternate sites. Often, scientific study, selective salvage, and museum preservation before destruction is all that is necessary. Most such projects should include the training and strengthening of institutions entrusted with safeguarding a nation's cultural patrimony. Such activities should be directly included in the scope of the project, rather than being postponed for some possible future action, and the costs are to be internalized in computing overall project costs.
- This policy pertains to any project in which the Bank is involved, irrespective of whether the Bank is itself financing the part of the project that may affect cultural property.

This policy is triggered as some of the proposed activities will be carried out adjacent religiously important and historic sites. A PCR Management Plan may need to be developed in pursuance with this policy. Chance find procedures would also need to be in place.

3.3.6 Involuntary Resettlement (OP 4.12)

The WB's experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks. This policy includes safeguards to address and mitigate these risks. The overall objectives of the Policy are:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them.

This policy is triggered. There may be limited resettlement as a result of some land acquisition for construction works under Component 3. A Resettlement Policy Framework has been prepared to address this policy.

3.3.7 Forestry (OP 4.36)

The objective of this Policy is to assist the WB's borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.

This policy is not triggered. The proposed activities will be carried out in built-up areas or along agricultural areas where no forests exist. Therefore, the proposed activities are unlikely to affect any forests.

3.3.8 Safety of Dams (OP 4.37)

The Policy seeks to ensure that appropriate measures are taken and sufficient resources provided for the safety of dams the WB finances.

This policy is not triggered as there are no activities related to building of dams under this project.

3.3.9 Projects on International Waterways (OP 7.50)

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.

This policy is not triggered as no works will be carried out at or in any international waterways.

3.3.10 Projects in Disputed Areas (OP 7.60)

This policy defines the procedure that needs to be followed in case the Bank-funded project or any of its components is located within any disputed area.

This policy is not triggered as no works will be carried in any disputed areas.

3.4. World Bank Environmental Code of Practices

The World Bank Environmental Code of Practices (ECoPs) is to address less significant environmental impacts and all general construction related impacts of the proposed project implementation. The ECoPs provide guidelines for best operating practices and environmental management guidelines to be followed by the contractors for sustainable management of all environmental issues. The list of ECoPs is provided below. Detailed ECoPs can be found in Annex 4.

- ECP 1: Waste Management
- ECP 2: Fuels and Hazardous Substances Management
- ECP 3: Water Resources Management
- ECP 4: Drainage Management
- ECP 5: Soil Quality Management
- ECP 6: Erosion and Sediment Control
- ECP 7: Borrow Areas Development & Operation
- ECP 8: Air Quality Management
- ECP 9: Noise and Vibration Management
- ECP 10: Protection of Flora
- ECP 11: Protection of Fauna
- ECP 12: Protection of Fisheries
- ECP 13: Road Transport and Road Traffic Management
- ECP 14: Construction Camp Management
- ECP 15: Cultural and Religious Issues
- ECP 16: Workers Health and Safety

3.5 Gap Analysis of Land Acquisition Act &World Bank Policies

3.5.1 Comparison of LAA and WB Operational Policies

The LAA (1894) and the World Bank Involuntary Resettlement policy principles specifically related to land acquisition and resettlement aspects compares as given in Table 3.2 below. The objective of this exercise is to identify if and where the two sets of procedures are in conformity with each other and more importantly where there are differences and gaps. The key World Bank Involuntary Resettlement Policy Principles are:

- the need to screen the project early on in the planning stage,
- carry out meaningful consultation,
- at the minimum restore livelihood levels to what they were before the project,
- improve the livelihoods of affected vulnerable groups (iv) prompt compensation at full replacement cost and provide displaced people with adequate assistance,
- ensure that displaced people who have no statutory rights to the land that they are occupying are eligible for resettlement assistance and compensation for the loss of non-land assets and
- disclose of all reports.

Table 0.2: WB OP 4.12 Involuntary Resettlement & Pakistan Land Acquisition Act

Sr. No.	World Bank Involuntary Resettlement Policy Principles	Pakistan's Land Acquisition Act	Approaches to Address the GAPs
1	Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Determine the scope of resettlement planning through a survey and/or census of displaced persons, including a gender analysis, specifically related to resettlement impacts and risks.	No equivalent requirements	Screened and categorized. Scope defined, social assessment and gender analysis undertaken.
2	Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. Inform all displaced persons of their entitlements and resettlement options. Ensure their participation in planning, implementation, and monitoring and evaluation of settlement programs. Pay particular attention to the needs of vulnerable groups, especially those below the poverty line, the landless, the elderly, women and children, and Indigenous peoples, and those without legal title to land, and ensure their participation in consultations. Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons‟ concerns. Support the social and cultural institutions of displaced persons and their host population. Where involuntary resettlement impacts and risks are highly complex and sensitive, compensation and resettlement	LAC or District Judge (in Case of the Telegraph act) Are the final authorities to decide disputes and address complaints regarding quantification and assessment of compensation for the affected lands and other assets?	Complaints and grievances are resolved informally through project grievance redress mechanisms. Consultations conducted, vulnerable groups identified and supported as relevant.

	decisions should be preceded by a social preparation phase.		
3	Improve, or at least restore, the livelihoods of all displaced persons through (i) land-based resettlement strategies when affected livelihoods are land based where possible or cash compensation at replacement value for land when the loss of land does not undermine livelihoods,(ii) prompt replacement of assets with access to assets of equal or higher value, (iii) prompt compensation at full replacement cost for assets that cannot be restored, and (iv) additional revenues and services through benefit sharing schemes where possible.	No equivalent requirements.	Livelihoods restoration is required and allowances are provided. Provided as relevant.
4	Provide physically and economically displaced persons with needed support	No equivalent requirements.	Support provided to be commensurate with impacts

3.5.2 Remedial Measures to Reconcile Gaps between the LAA and WB Policy

Project specific social issues have been addressed to assist non-titled persons (squatters/encroachers) and bridge the gap between existing practice and the guidelines of the World Bank Involuntary Resettlement Policy to reconcile the inconsistencies between the LAA (1894) and World Bank OP 4.12. PRMP has prepared this ESMF for the proposed project, ensuring that compensations are provided at replacement cost for all direct and indirect losses, so that no one is worse-off as a result of the project implementation. Provision of subsidies or allowances/ assistance, Resettlement & Rehabilitation (R&R) will need to be given for affected households that may be relocated, suffer business losses, or may be vulnerable.

CHAPTER 4: ASSESSMENT OF ENVIRONMENT & SOCIAL BASELINE

4.1 Project Area

The main sites of this project are located across four districts in Punjab.

1. District Rawalpindi – Mankiala Stupa, Taxila Museum, Julian Remains
2. District Chakwal – Katas Raj
3. District Gujranwala – Gurdwara Rori Sahib
4. District Sheikhupura – Gurdwara Sacha Sauda Sahib

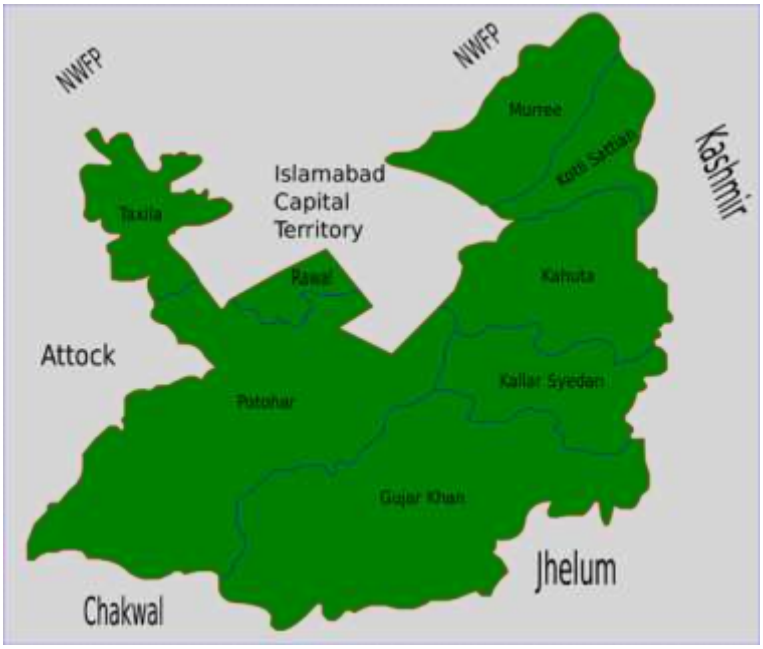
The baseline information presented in this chapter is broad base. The specific baseline information will be presented during the assessment and preparation of the ESMP of sub-projects.

The physical locations of each of the main sites of this project are described below:

4.1.1. District Rawalpindi

Rawalpindi District is located in the northern region of the Punjab province. The district has an area of 5,286 km. It is situated on the southern slopes of the north-western boundaries of the Himalayas, including large mountain tracts with rich valleys traversed by Mountain Rivers.

Figure 0.1: Location of Rawalpindi District



The project sites located in Rawalpindi are the Mankiala Stupa, Taxila Museum and Julian Remains, all with a historic and religious importance in Buddhism.

Figure 4.2 shows the physical location of the Mankiala Stupa. The Stupa is located close to the Village of Mankiala, directly off the Mankiala Road, not far from the GT Road. The Stupa is mostly surrounded by agricultural fields, with some low level village structures on one side.

Figure 0.2: Physical Location of Mankiala Stupa

The location of Taxila Museum is shown in Figure 4.3. The museum is well connected through roads and is located near the town of Taxila. The Museum compound includes gardens and grounds. The project will improve the connectivity of Taxila Museum to other important historic Buddhist sites in the district.

Figure 0.3: Physical Location of Taxila Museum

Julian houses the remains of an ancient Buddhist monastery near Taxila. The remains are surrounded by mostly unused land, with agricultural fields nearby, as shown in Figure 4.4.

Figure 0.4: Physical Location of Julian Remains

4.1.2. District Chakwal

Chakwal is a district in the province of Punjab. The district is bounded from the north with districts Attock and Rawalpindi, from the east with district Jhelum, and from the south district with Khushab and Mianwali.

The project site located in District Chakwal is the Temple of Katas Raj, holding historic and religious importance in Hinduism. The temple is locate near the town of Choa Saidan Shah. The temple complex includes a pond which has sacred importance in Hinduism. The pond is recharged through groundwater sources, which have been suffering depletion due to excessive extraction by industries located in Chakwal. The area, as shown in Figure 4.5, has a mixture of agricultural fields and low level built structures.

Figure 0.5: Physical Location of Katas Raj

4.1.3 District Gujranwala

The district of Gujranwala, spread over an area of 3,622 square kilometers, is situated between the main cities of Gujrat in the North, and Sheikhupura and Lahore in the South. The Chenab River forms the Northern boundary of the district. Beyond the river, it is bounded by Gujrat and Mandi Bahauddin districts, on the East by Sialkot district, on the South by Sheikhupura district and on the West by Hafizabad district.

The project site located in District Gujranwala is Gurdwara Rori Sahib near the town of Eminabad and about 15 km from the city of Gujranwala. The project will aim to improve the road access of the Gurdwara from Eminabad and improved arrival facilities for tourists. As shown in Figure 4.6, the Gurdwara is located outside the town of Eminabad and is surrounded by agricultural fields.

Figure 0.6: Physical Location of Gurdwara Rori Sahib

4.1.4 District Sheikhupura

District Sheikhupura, spread over an area of 3,280 square kilometers is bounded on the North by Gujranwala and Hafizabad districts, on the North-East by Narowal district, on the West and South-West by Nankana Sahib district and on the East by Lahore district. The project site located in District Sheikhupura is Gurdwara Sacha Sauda Sahib, in the town of Farooqabad. The Gurdwara, as shown in Figure 4.7 is surrounded by densely populated urban areas on three sides, with agricultural fields on one side. The compound of the Gurdwara itself has a dense growth of trees.

Figure 0.7: Physical Location of Gurdwara Sacha Sauda Sahib

4.2 Climate

District Rawalpindi

The District of Rawalpindi has a varying climate due to a range in elevations across the district. The highest elevation is 9210 feet close in the Murree Hills, and lowest in the southern part of the district is 1100 feet. The climate in the hilly areas is subtropical highland climate, while low lying areas have a humid subtropical climate. The annual rainfall ranges from about 1142 millimeters in the Murree Hills, to 913 millimeters in the plains (DCR, 1998).

Figure 0.8: Average Temperatures – Rawalpindi (Plains)

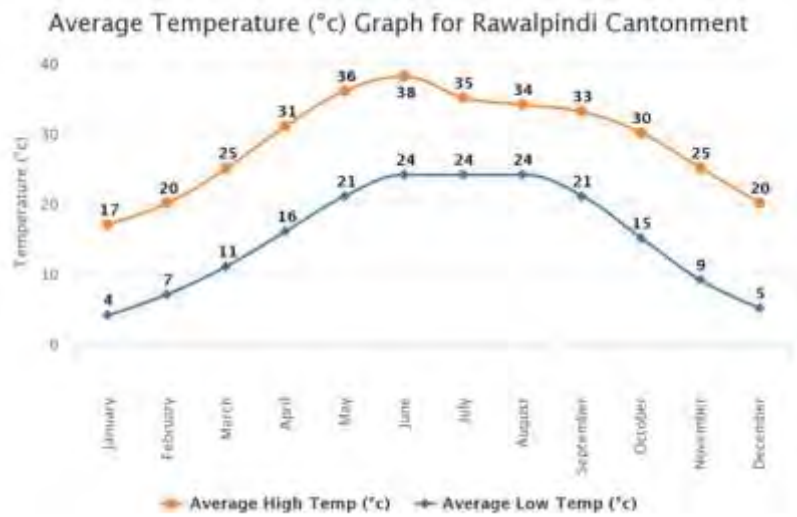
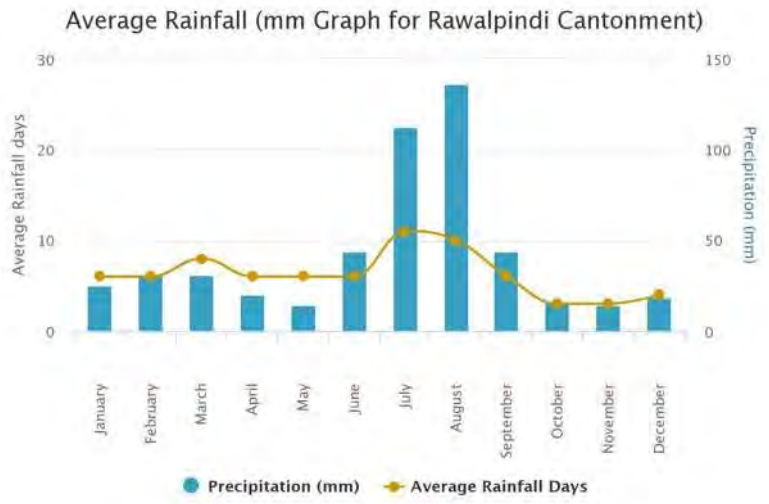


Figure 0.9: Average Rainfall – Rawalpindi (Plains)



District Chakwal

The climate of District Chakwal is subtropical. Due to a higher elevation than Central Punjab, the district experiences lower temperatures during the winter. Winter temperatures normally range between 4° C and 25° C, and summer temperatures average between 17° C and 28° C. Chakwal lies within the monsoon range, and apart from occasional rainfall, there are two rainy seasons: the first, caused by the monsoon winds originating from the Bay of Bengal, begins from 15th of July and continues upto 15th of September; the second, caused by Mediterranean winds lies in the last two weeks of December and the first two weeks of January. The average rainfall is 22 to 25 inches. Choa Saidan Shah sub-division has the maximum rainfall in the district.

Figure 0.10: Average Rainfall – District Chakwal

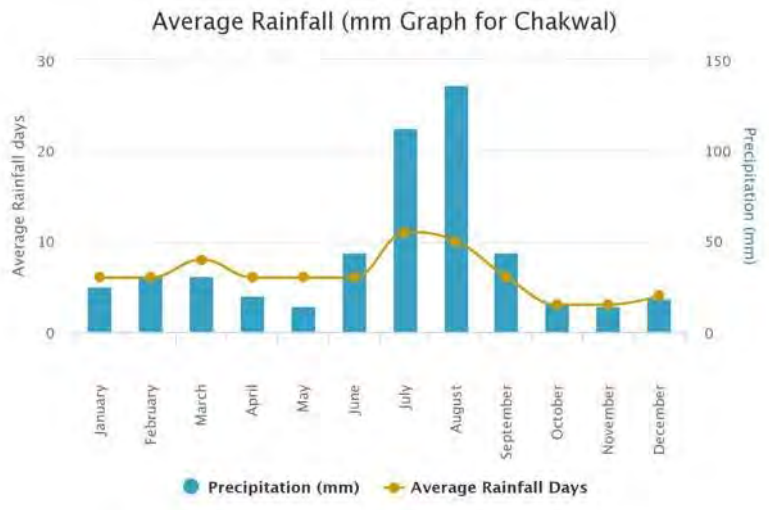
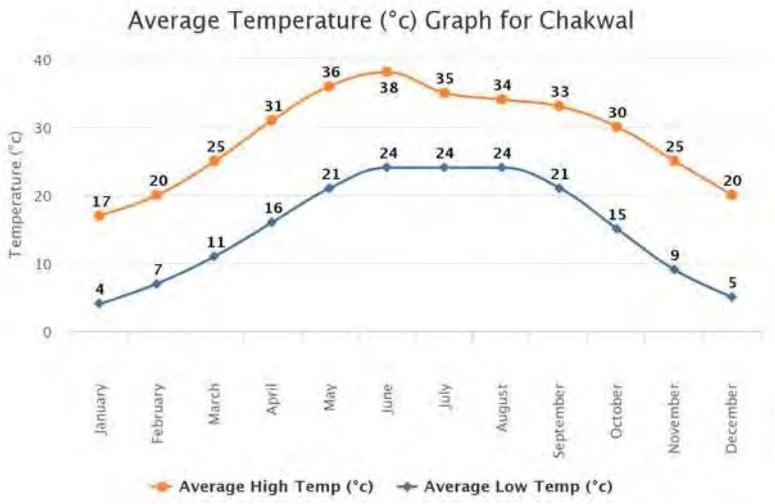


Figure 0.11: Average Temperatures – District Chakwal



District Gujranwala

The climate of the district is hot and dry during summer and moderately cold in winter. The summer season starts in April and continues till September. June is the hottest month with maximum temperatures of 40ºC. The winter season begins in November and lasts till March. January is the coldest month. The minimum temperatures during this month are 6ºC, respectively. The sky is frequently overcast during winter with meagre rainfall. The monsoons set in July and continue till September. The eastern part of the district receives more rain. The average annual rainfall in the district is 888 millimeters.

Figure 0.12: Average Rainfall – District Gujranwala

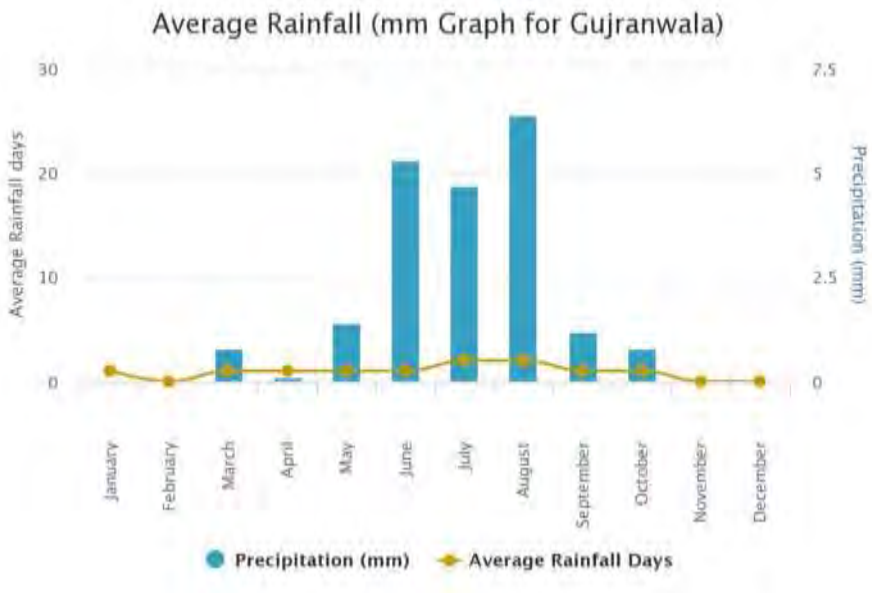
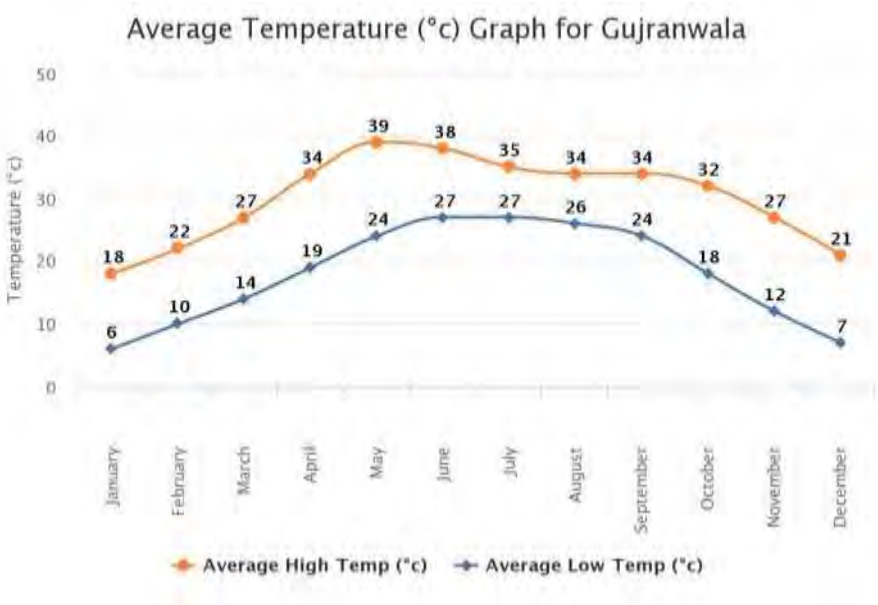


Figure 0.13: Average Temperatures– District Gujranwala



District Sheikhupura

The climate of the district Sheikhupura is subject to extreme variations. From the middle of December to the middle of March, the air is very damp, cold and light to moderate rain falls at intervals. The winter rain is followed by a spell of pleasant weather. In April, the temperature rises fast and the two successive months are very hot with temperatures rising up to 39ºC in May and June. Lowest temperatures of 8ºC are in January. The district experiences Monsoon rainfall towards the end of June. The average rainfall in the district is about 635 mm.

Figure 0.14: Average Temperatures– District Sheikhupura

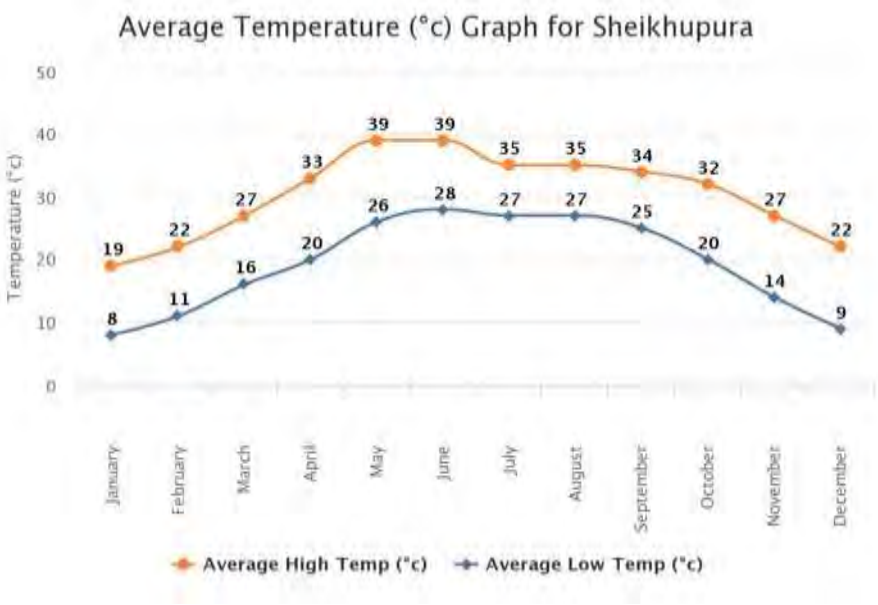
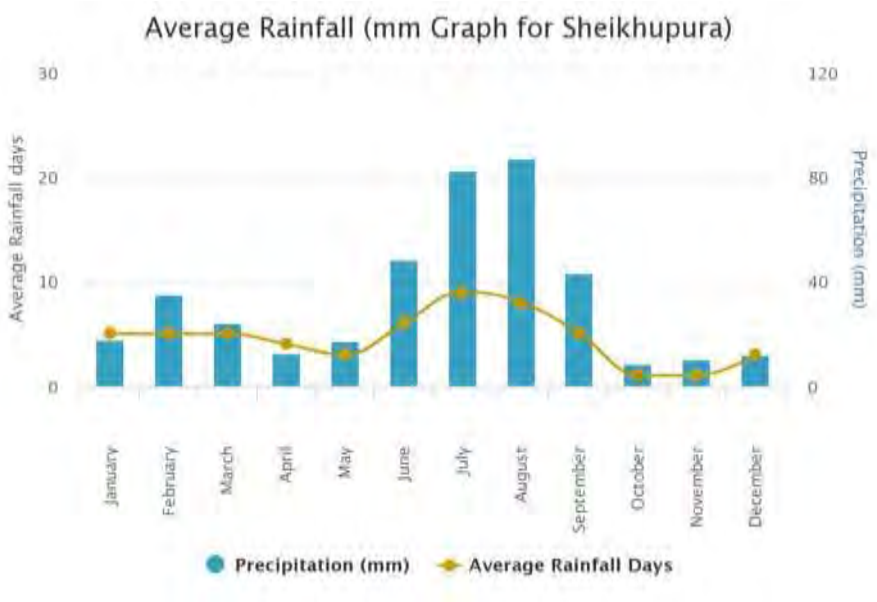


Figure 0.15: Average Rainfall – District Sheikhupura

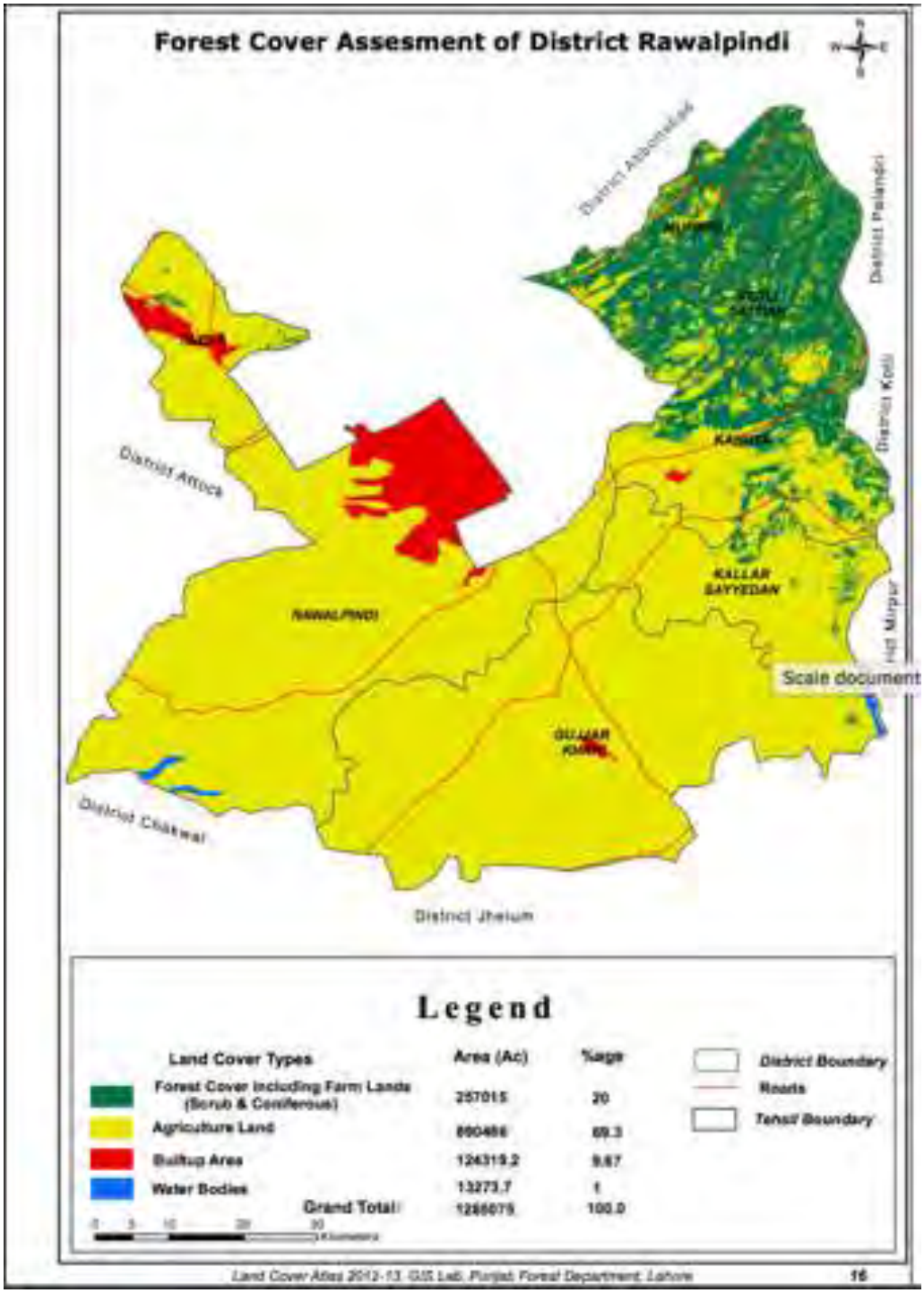


4.3 Land Use

District Rawalpindi

Figure 4.22 shows the land use in District Rawalpindi. The district is mostly agricultural, with around 20% land coverage by heavy forests, mostly in the Murree Hills. Built up area is concentrated in the city of Rawalpindi and in parts of Taxila where the project sites are located. Wheat, Maize, Jawar and Ground Nut are the main crops grown in the district.

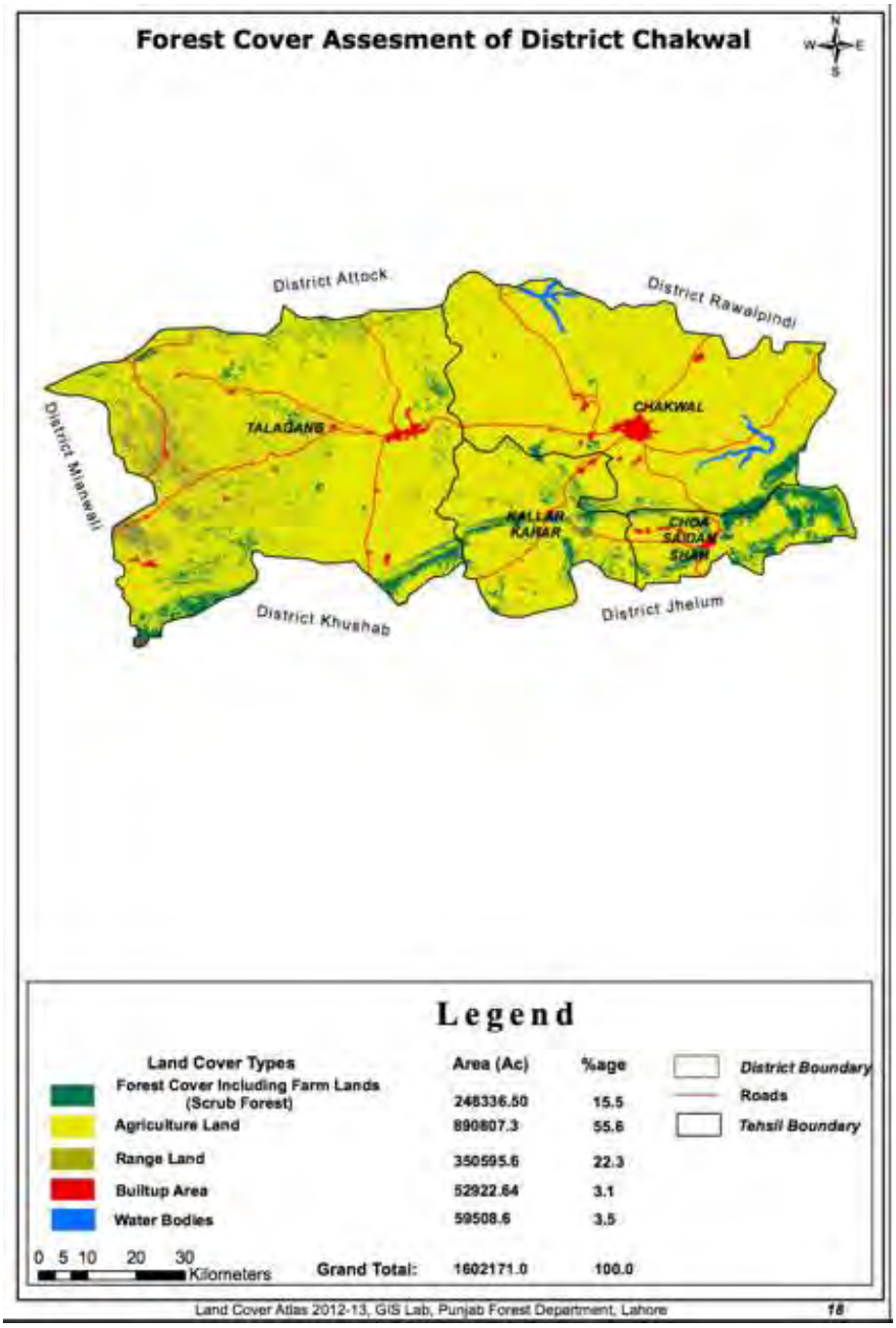
Figure 0.16: Land Use Map – District Rawalpindi



District Chakwal

District Chakwal is a rain-fed district with mainly hilly terrain lying at the beginning of the Potohar plateau and the Salt Range. It is covered with scrub forest in the south-west and levelled plains interspersed with dry rocky patches in the north-east. Scrub forests cover 15% of the district, while 22% of the district is covered by rangelands. Half of the land in District Chakwal is used for rain-fed agriculture.

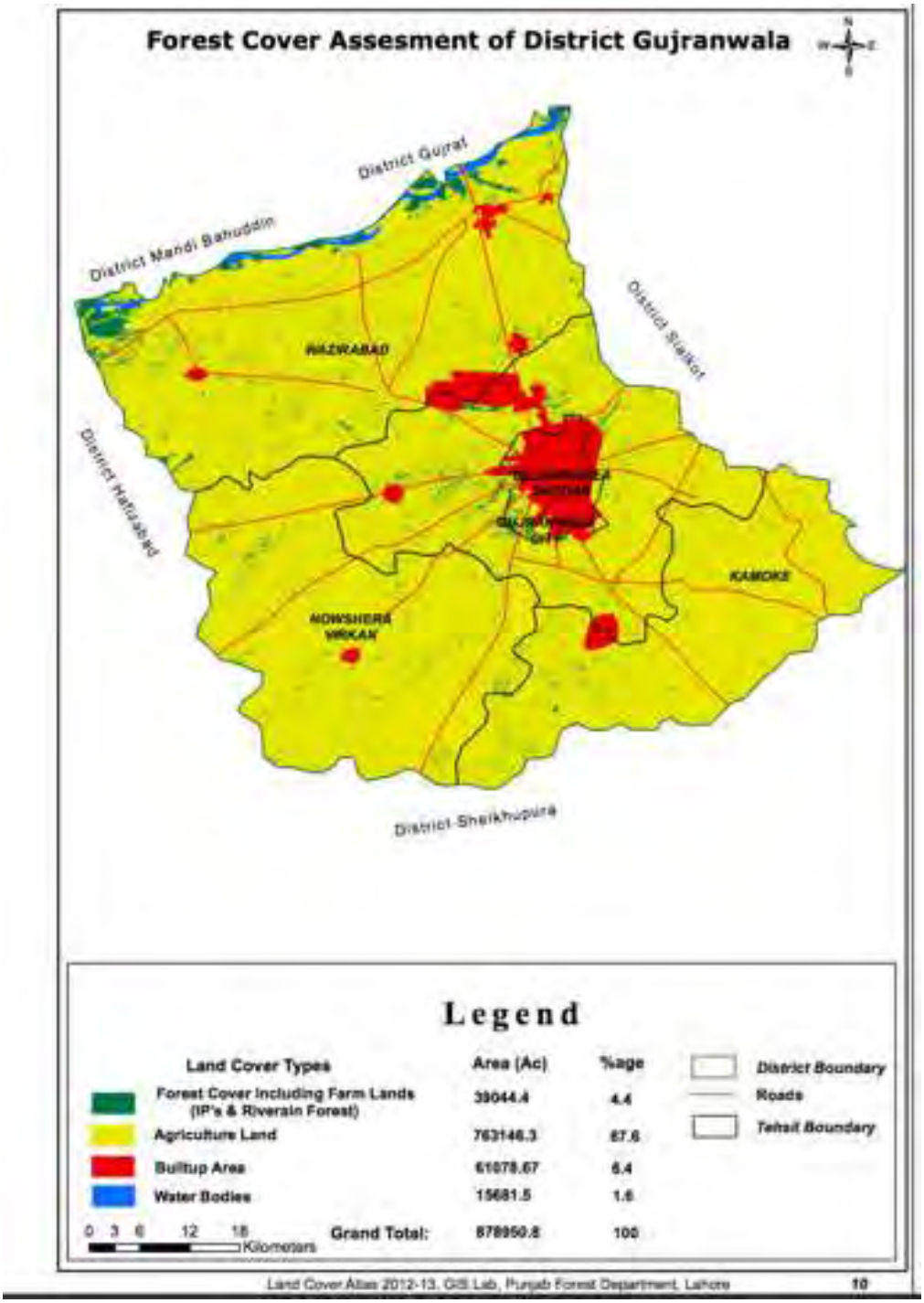
Figure 0.17: Land Use Map – District Chakwal



District Gujranwala

Gujranwala is a mainly agricultural district with canal irrigation. 88% of the land area in Gujranwala district is used for agricultural purposes. The soil is alluvial and fertile, and the district is essentially a flat strip of land running roughly east to west. There are heavily built up areas in and around Gujranwala City. There is some scattered forest cover on the northern boundary of the district with Mandi Bahaudin and Gujrat. There is also linear plantation of 1759 km alongside the roads/canals. The popular trees grown in the area are Kau, Phalai, Kikar and Shisham.

Figure 0.18: Land Use Map – District Gujranwala



District Sheikhupura

The District of Sheikhupura is mainly agricultural with canal fed irrigation. 88% of the district is used for agriculture. The upland or the Bar in the North West, in the natural condition, is a level prairie thickly dotted over with a stunted under-growth of bush jungle. The low land along the river Ravi has light loam. The central portion which is the Deg Valley has stiff soil.

Figure 0.19: Land Use Map – District Sheikhupura

4.4. Biodiversity, Habitat and Environmental Sensitivity

4.4.1 Environmental Sensitivity

An ecological ranking of districts in Pakistan shows the ecological importance of the six districts in the project area. The rankings is a Geographic Information System (GIS) based overlay analysis of six indices; forest cover, vegetation zones, endemic mammals, highly significant wetlands, bird species richness and mammal species richness. The analysis shows that the districts of Rawalpindi and Chakwal fall in the top 5 ranking due to the presence of rich forests in the Murree Hills (Rawalpindi) and Kallar

Kahar wetlands and Game Reserve (Chakwal). However, none of the project sites are located within these ecologically sensitive areas.[7]

Figure 0.20: Ecological Ranking of Districts in Punjab

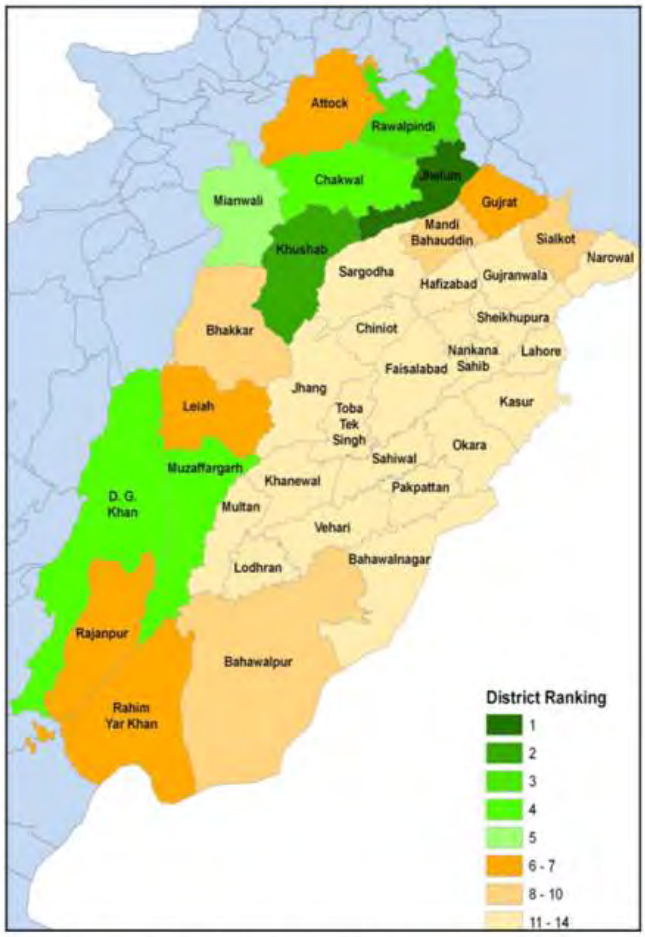


Fig. 4. Thematic map showing ecological ranking of the districts of Punjab.

4.4.2 Forest Cover

Details of forest cover in each of the four districts has been discussed in the section on Land Use. Figure 4.21 summarizes these details. The highest forest cover is in the Murree Hills of Rawalpindi District (coniferous forests). The district of Chakwal has a presence of scrub forests and rangelands. Gujranwala and Sheikhupura have limited forest cover mainly riverine. [8]

[7] Ali et. al Ecological Ranking of Districts Of Pakistan: A Geospatial Approach, 2012. http://lib.icimod.org/record/20605/files/35_Pak_J_Bot_44_263_268.pdf

[8] Forest, Wildlife and Fisheries Department, Government of Punjab (fwf.punjab.gov.pk)

Figure 0.21: Forest Cover in Punjab

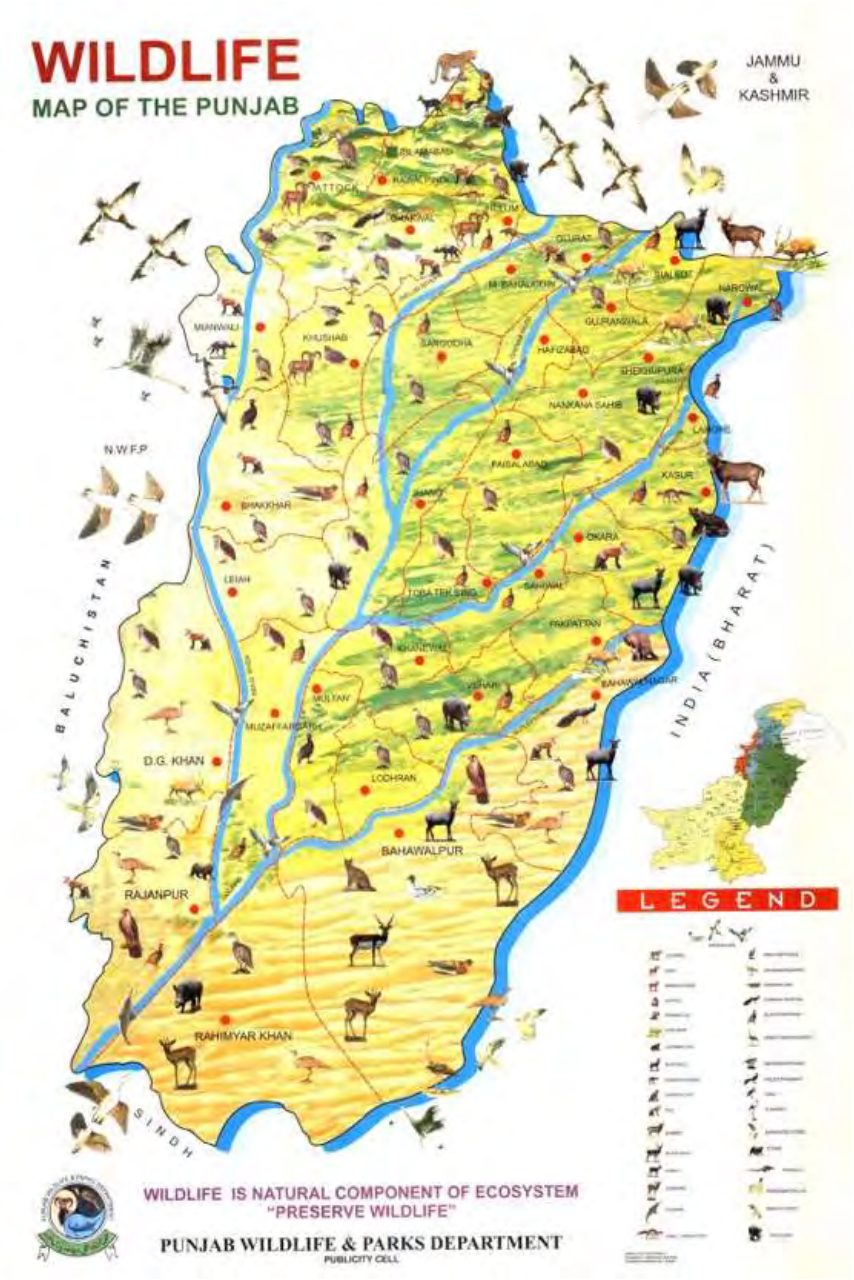
4.4.3 Wildlife

The highest concentration of wildlife is in District Chakwal and Rawalpindi. The target districts have the following types of wildlife. However, there is limited presence of wildlife in the project areas.[9]

- Rawalpindi – Leopard, Monkey, Leopard Cat, Barking Deer, Pangolin, Goral, Fox
- Chakwal – Fox, Striped Hyena, Common Peafowl, Partridge, Flamingo
- Gujranwala – Grey Partridge, Waterfowl, Hog Deer
- Sheikhupura– Hog Deer, Quail, Wild Boar

[9]Forest, Wildlife and Fisheries Department, Government of Punjab (fwf.punjab.gov.pk)

Figure 0.22: Wildlife in Punjab



4.5 Surface and Groundwater Resources

District Rawalpindi

The population in the district of Rawalpindi is mostly dependent on rainwater sources and groundwater pumping through tube-wells and water pumps. Agriculture is mostly rain-fed.

Four rivers pass through Rawalpindi district. River Jhelum skirts the district from its northern part near Dewal to its southern boundary covering a distance of 88 kilometers. River Soan takes rise from within a few kilometers of the Murree hills and flows down deep in the valley for the 6 kilometers of its course till it reaches the plains near the old ruined fortress of Pharwala. It flows close to Rawalpindi city and finally joins the Indus near Makhad. Haro River rises near Donga Gali in Abbottabad and enters Rawalpindi near the village of Bhallar-top. It cuts across a small portion of Rawalpindi tehsil and then

enters Attock. Korang river rises near Ghora Gali and flows along the Murree-Rawalpindi road. This river has been dammed at Rawal Dam, after which is joins Soan near Sihala. Five streams and Nullahs including Leh, Kanshi, Ling, Sarin and Tamrah also pass through Rawalpindi.[10]

The district faces a scarcity of water and poor quality of available water. Bacteriological contamination and upward trend in Nitrate contents have been observed in drinking water samples of Rawalpindi. [11] EPD survey in Rawalpindi has found that of the 280 sub-soil water samples collected, 180 indicate that the quality of water is not fit for human consumption in accordance with the NSDWQ.[12]

District Chakwal

The population in the district of Chakwal is mostly dependent on rainwater sources and groundwater pumping through tube-wells and water pumps. Agriculture is mostly rain-fed. There is no surface irrigation system, such as canal networks. No river passes through Chakwal district except Soan that enters at Pindi Gheb area and passes through Hasli-Warwal into Talagang sub division. It falls into Indus on the border. A number of nullahas cross through Chakwal District. The more important of which is a Nullah Soj, Wahan, Ghabbir, Tarapi, Dharabi and Banhaa.[13]

The Kallar Kahar Lake is located in Chakwal, which is fed by the surrounding mountain streams. The water table is in Chakwal lower than the plains of Punjab. A surface water analysis of the Kallar Kahar Lake showed the presence of physical, chemical and microbiological contaminations. Use of fertilizers, pesticides and sewage discharge in and near the study area can be linked to the high chemical contamination levels. High concentration of Sodium and Potassium was also observed in the ground water mainly due to sewage discharges and extensive use of fertilizers in adjacent agricultural lands and can also be linked to the geographic location and erosion of salt deposits and minerals.[14]

District Gujranwala

Gujranwala is fed by the River Chenab and associated secondary and tertiary tributaries. The Lower Chenab Canal, Upper Chenab Canal, Qadirabad Balloki Link Canal, Ahmedpur Wag Drain and Jhang Branch Canal also flow through the district. The district also has the Khanki Headworks to control, regulate and coordinate irrigation and flood control.

Environment Protection Department survey in Gujranwala has found that of the 280 sub-soil water samples collected, 180 indicate that the quality of water is not fit for human consumption in accordance with the NSDWQ. A survey conducted by the Punjab Environment Protection Department and UNICEF during 2000-04 shows high concentration of arsenic in drinking water samples collected from various sites in Gujranwala City. [15]

[10]District Census Report, Rawalpindi (1998)
[11]http://www.pulsepakistan.com/masood/pakistan/punjab.html
[12]Arsenic and Fluoride Contamination in Drinking Water in 35 Districts of Punjab (epd.punjab.gov.pk)
[13]District Census Report, Chakwal (1998)
[14]Site Management Plan, Kallar Kahar Game Reserve, WWF Pakistan (2011)
[15]Arsenic and Fluoride Contamination in Drinking Water in 35 Districts of Punjab (epd.punjab.gov.pk)

District Sheikhupura

The major surface water source in District Sheikhupura is River Ravi. In addition, the Qadirabad Balloki Link Canal, Upper Chenab Canal, B.R.B Canal Burji and Marla Ravi Link flow through the District. The Nanu Dogar Nolan, Waran Jattan, and Daney Wali Ponds are also located in Sheikhupura.

A survey conducted by the Punjab Environment Protection Department and UNICEF during 2000-04 shows high concentration of arsenic in drinking water samples collected from various sites in Gujranwala. The department also reports from a study of 11 cities of Punjab showing an excess of arsenic and fluoride concentrations in the water supply systems of Sheikhupura city. [16]

4.6 Ambient Air Quality

The only secondary information available on ambient air quality for these districts is restricted to the city/urban areas. As such there is no information available for rural areas within the same districts where all the sites are located.

4.7 Flooding

In recent years, many districts across the province have been affected by flooding due to heavy rains and breaches in rivers Chenab, Ravi and Jhelum along with their tributaries.

The flooding resulted in destruction of infrastructure, livelihoods, and many thousand acres of crops. The project areas lie in the greater floodplains and chances of flooding remain as an eminent threat.

4.8 Socioeconomic Baselines

4.8.1 Demographic Profile[17, 18]

District Rawalpindi

According to the 1998 census of Pakistan, the population of the district was 3,363,911 of which 53.03% was urban. Rawalpindi is the second-most urbanized district in Punjab. The sex ratio is 104.9 and population density is 636.5 per Sq. Km. The population was estimated to be 4.5 million in 2010.[19].

District Chakwal

The district Chakwal has a population of 1,083,725 as per the 1998 census of Pakistan. The urban population at the time was 12.2% of the total population and 87.8% population was rural population. The sex ratio of the district is 91.6 and population density is 166.1 per Sq. Km.

District Gujranwala

According to the 1998 census of Pakistan, the population of District Gujranwala is 3,400,940 half of which is urban. The sex ratio is 108.6 and population density is 939 per Sq. Km.

District Sheikhupura

[16]Arsenic and Fluoride Contamination in Drinking Water in 35 Districts of Punjab (epd.punjab.gov.pk)
[17]www.pbs.gov.pk
[18]Forest, Wildlife and Fisheries Department, Government of Punjab (fwf.punjab.gov.pk)
[19]www.punjab.gov.pk

The 1998 census of Pakistan shows that the population of Sheikhupura district is 3,321,029 of which 74% is rural. The sex ratio is 108.6 and population density is 557.2 per Sq. Km.

4.8.2 Literacy

A brief gender disaggregated summary of literacy in four districts is given below. The above data show that among all fours districts, district Rawalpindi has maximum overall literacy across men and women.

District	Total (%)	Male (%)	Female (%)
Rawalpindi	70.4	81.18	59.18
Chakwal	56.7	73.42	42.15
Gujranwala	56.5	63.6	48.8
Sheikhupura	47.8	53.28	33.33

4.8.3 Education

District Rawalpindi

According to 2015 data, Rawalpindi was ranked number one district of Pakistan in terms of education and school infrastructure facilities. According to official 2014 Public Schools Census data, district Rawalpindi had a total of 1,230 primary, 316 middle, 365 secondary and 40 higher secondary schools[20].Out of these public sector schools, 911 are male schools while 1,040 are for girls. There were 4,279 teachers teaching at primary level while 3,129, 6,516 and 1,155 teachers are teaching at middle, secondary and higher secondary level, respectively. Out of these teachers, 9,788 are female while 5,291 are male.

District Chakwal

Chakwal has a total of 1,199 government schools out of which 52 percent (627 schools) are for girl students. The district has an enrolment of 181,574 in public sector schools.[21]

District Gujranwala

Gujranwala has a total of 1,121 government primary schools. Out of this total, 424 schools are for boys and 697 schools are for girls. These schools have a total enrolment of 138,034 with a teaching staff of 3,840. Middle and high level schools are 295 and 227 respectively in total with 239 schools for boys and 238 schools for girls. In addition to these, there are 32 mosque schools in Gujranwala.[22]

[20]Rawalpindi School Census Data, School Education Department.
[21]Punjab Annual Schools Census Data, 2014-15.
[22]Punjab Development Statistics, 2015

District Sheikhupura

There are 1,042 government primary schools in district Sheikhupura. Out of this, 658 schools are for boys and 384 schools are for girls. These schools have a total enrolment of 47,969 with a teaching staff of 2,988. Middle and high level schools are 209 and 207 respectively with 158 schools for boys and 512 schools for girls. In addition to these, there are 22 mosque schools in Gujranwala.[23]

4.8.4 Housing

District Rawalpindi

As per estimates of 1998, total housing units in Rawalpindi district are 521,507. Pacca housing units are 462,724 (88.73 %). Housing with electricity, piped water and gas for cooking are 474,471 (90.98 %), 215,313 (41.29 %) and 275,853 (52.89 %) respectively.

District Chakwal

A brief picture of housing characteristics and infrastructure provision in district Chakwal (1998 estimates) within houses is presented below:

Total Housing Units	187,076
Pacca Housing Units	133,823 (32.57%)
Housing Units having Electricity	130,485 (47.95 %)
Housing Units having Piped Water	40,074 (7.89 %)
Housing Units using Gas for Cooking	16,656 (0.99 %)

District Gujranwala

The housing characteristics and infrastructure provision within the houses in district Gujranwala (1998 estimates) is presented below:

Total Housing Units	448,818
Pacca Housing Units	406,319 (90.53%)
Housing Units having Electricity	418,878 (93.33 %)
Housing Units having Piped Water	145,929 (32.51 %)
Housing Units using Gas for Cooking	154,004 (34.31 %)

District Sheikhupura

The housing characteristics and infrastructure provision within houses in district Sheikhupura (1998 estimates) is presented below:

Total Housing Units	453,248
Pacca Housing Units	328,274 (72.43 %)
Housing Units having Electricity	371,266 (81.91 %)
Housing Units having Piped Water	84,740 (18.69 %)
Housing Units using Gas for Cooking	57,448 (12.67 %)

[23]Punjab Development Statistics, 2015

4.8.5 Agriculture

District Rawalpindi

70% of the land use in Rawalpindi District is for agriculture which is mostly rain fed. The main crops grown in the district are Wheat, Maize, Jawar and Ground Nut.

District Chakwal

The main crops of the district are Wheat, Groundnut, Oil Seeds, Grams, Lentils, Masoor, Mung, Mash, Maize, Miliers, Jawar and Vegetables. Due to lack of irrigation and surface water sources, around half of the land area in Chakwal is used for rain fed agriculture cultivating mainly wheat and groundnut. New' techniques and methods are being introduced. The farmers now use fertilizer and pesticide and capital intensive time saving input like tractors and harvesters are being used.

District Gujranwala

Agriculture is predominant in Gujranwala, with 88% of the land area being use for this purpose for growing mainly rice, wheat and sugarcane. The source of irrigation is perennial and non-perennial canals supplemented by tube wells. Guavas and Citrus are main fruits grown in the district. Gujranwala is one of the prominent district of rice growing areas in Pakistan. It is known for its high quality Basmati, with very pleasant flavour, which is very popular in the world especially in the Middle East.

District Sheikhupura

Sheikhupura district is one of the major rice growing districts of Pakistan. Its Ferozewala tehsil is well known for paddy cultivation. Quality Basmati rice cultivated in this district is exported. Major crops and fruit of district Sheikhupura are sugarcane, wheat, rice and guava. A variety of vegetables are also grown in the district.

4.8.6 Industry

District Rawalpindi

The economy of Rawalpindi has a diverse industrial base, mostly in the urban areas. There are about 2,005 cottage level and small/medium/large scale industrial units functioning in Rawalpindi. The chief industries of the city include oil refineries, gas processing, steel manufacturing, iron mills, railroad yards, a brewery, sawmills, tent factories, textiles, hosiery, pottery, leather goods production, transport and tourism.

District Chakwal

Chakwal is a predominantly rural district with an agrarian economy. The industrial sector does exist but is relatively small and agro-based mainly comprising textile and spinning mills and some feed and flour mills.

The small industries sector is relatively larger and broader. This sector comprises a large number of brick kilns, poultry farms, hatcheries, fish farms, cattle farms, quail farms, marble factories, furniture manufacturing units, shoe manufacturing units and clay crockery manufacturing units.

Like most of the other rural districts of the Punjab, the cottage industry is fairly large, traditional and under developed. The concerns in this sector mainly comprise embroidery, stitching, khusa making, wood work, clay utensils, clay toys, dying, metal works etc.

District Gujranwala

There is also a large concentration of industry in the city of Gujranwala. Gujranwala district is one of the major industrially developed districts of the country. It possesses the requisite social/physical infrastructure and industrial base for the manufacture of specialized electrical/electronic products and industrial machinery to meet the overall requirement of the country such as distribution/power transformer, electricity/gas/water meters, circuit breakers, electric appliances, wires/cables, calculators, computers, machine tools, etc.[24]

District Sheikhupura

Sheikhupura industrial area was established before the Partition. After 1947 it has been established as a well-known industrial city with the sole objective to develop and accelerate industrial pace with the establishment of heavy and large scale industries. There are 23 flour mills, 93 rice mills, 4 fruit juices factories, 4 solvent extraction units and 15 vegetable ghee/cooking oil units already operating in the district.[25]

Some of the industrial units include paper and board, rayon producing, steel rerolling, leather industry, leather shoes jackets and belts, chemical, pharmaceutical, tractor manufacturing, rice processing, stone and marble grinding, textile manufacturing, motorcycle manufacturing, cycles manufacturing, poultry and animal feed, flour, soap, cable, PVC cable, PVC pipe, MS pipe, GI Pipe, engineering & services, power generation unit, agriculture tools, ethanol industry, stainless steel and automobile industries [26]

4.8.7 Major Occupations

Farming and farming related activities are the main occupation of the people of Chakwal, a small percentage is employed in the trading sector, a smaller as industrial and mining labour and a very small fraction is employed in technical fields like health, education, banking, engineering etc .

In Gujranwala, 43.3 percent had elementary occupations followed by skilled agricultural and fishery workers 18.1 percent and service workers, shop and market sales workers representing 11.8 percent. In rural areas people having elementary occupations were again in majority, followed by skilled agricultural and fishery workers and service workers, shop and market sales workers, representing 41.2, 33.6 and 9.2 percent respectively. The highest percentage in urban area is again of elementary occupations, followed by service workers, shop and market sales workers having 44.9 and 13 .9 percent respectively.

In Sheikhupura, the total available labour force (i.e. population 15 years and above, working and looking for work) as per District Census Report Sheikhupura, 1998 in the district is 644 thousand persons. There are 12 Technical/Commercial /Vocational Institutions (7 for Men and 5 for Women) imparting training in various trades e.g. Mechanical, Electrical, Auto-Engineering, Welding, Wood

[24]https://www.punjab.gov.pk/gujranwala_agriculture
[25]https://www.punjab.gov.pk/sheikhupura
[26]http://www.scci.net.pk/content.php?p=63

Working and Commerce. Vocational Institutions for women impart training in hand/machine Embroidery, Stitching and Knitting.

4.8.7 Health

A brief information about the health facilities has been discussed below based on the development statistics of Punjab, 2015.

District Rawalpindi

There are 15 hospital in Rawalpindi district including 11 hospitals provided by the government and four private hospitals. Government hospitals have 2,605 beds in total and private hospitals have a capacity of 618 beds. A total of 1,035,000 patients have been provided treatment as on 1-1-2014.

District Chakwal

Chakwal district has six hospitals in total including five hospitals in the government sector and one private hospital. The government hospitals have 360 beds in total and private hospitals have a capacity of 10 beds. A total of 1,036,000 patients have been provided treatment as on 1-1-2014.

District Gujranwala

Gujranwala district has 16 hospitals in total including eight hospitals each in the government and private sectors. The government hospitals have 1,126 beds in total and private hospitals have a capacity of 557 beds. A total of 1,891,000 patients have been provided treatment as on 1-1-2014.

District Sheikhupura

Sheikhupura district has 116 hospitals in total with 153 hospitals in the government sector and 13 in local government sector. The government hospitals have 784 beds in total and local government hospitals have a capacity of 61 beds. A total of 1,170,000 patients have been provided treatment as on 1-1-2014.

4.8.8 Gender Aspects

Gender is one of the organizing principles of Pakistani society. Patriarchal values embedded in local traditions and culture predetermine the social value of gender. However, women in mainly urban areas have improved access to education, face fewer problems in mobility and often seek employment.

Women in rural areas mostly less mobile. Traditionally, male members of the family are given better education and are equipped with skills to compete for resources in the public arena, while female members are imparted domestic skills to be good mothers and wives. 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. However, the spread of patriarchy is not even. The nature and degree of women’s subordination vary across classes, regions, and the rural/urban divide. Patriarchal structures are relatively stronger in the rural and tribal setting where local customs establish male authority and power over women's lives. On the other hand, women belonging to the upper and middle classes have increasingly greater access to education and employment opportunities and can assume greater control over their lives.

In a study carried out by Gallup Pakistan, the Pakistani affiliate of Gallup International, majority of the Pakistanis believe that both males and females have different roles to play in the society. Although women's role has broadened beyond being a housewife over time, many people still give priority to men in politics, education, employment, and related walks of life. When the respondents were asked to give their opinion on a number of statements about gender roles 63% of the respondents agreed with the statement that "Boys' education is more important than girls'"; 37% disagreed with it. The percentage of people agreeing with this statement was higher among rural respondents (67%) as compared to the urban ones (53%). However, more than 90% believe that female children should be educated, nearly half of them believing that, should opportunity be available, they should rise to college education and beyond.

Fifty five percent (55%) of the respondents believe that "Both husband and wife should work"; while 45% said it is wrong for both husband and wife to work. Interestingly more than 50% of men including those from rural areas agree that both husband and wife should work for a better living. When the respondents were asked whether "Men are better politicians as compared to women or not"; 67% agree men are better politicians while 33% think otherwise. More women agree with this statement as compared to men. In response to the following statement "If jobs are in shortage should men be given priority for employment"; 72% of the respondents believe they should be given priority while 28% disagree. Eighty three percent (83%) of the respondents think that "To live a happy life women need children"; while only 17% think they do not. A vast majority of all respondents including 82% of women respondents believe that "prosperous women should raise their voice to support the rights of poor women."

CHAPTER 5: Stakeholder Consultations and Disclosure

5.1 General

In accordance with World Bank Guidelines, public consultations are essential to fulfill the following objectives:

- Exchange 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;
- Possible inclusion of specific issues associated with the implementation of the project;
- Eliciting community comments and feedback on the proposed Project;
- Sharing of information with stakeholders/public on the proposed project activities and expected impacts on the physical, ecological and socio-economic conditions of the project area; and
- Understanding the stakeholders' 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.

Public consultation plays a vital role in studying the project effects and their successful implementation of the project. This provides an opportunity to the potential PAPs/local community and other stakeholders to share their issues associated with the project and accordingly to incorporate their point of view about the possible solutions.

5.2 Stakeholder Analysis

The stakeholders[27] analysis refers to the PAPs/local community, associated departments/agencies, Non-Governmental Organizations (NGOs) and others, whose assets/land, business, structures, installations, interests may be impacted due to the project activities. These include owners of residential/commercial structures, built-in property, squatters/encroachers and tenants/ renters and the women/ women headed households.

5.3 Concerns/Feedback and Redress

Consultation were carried out in the vicinity of an archaeological site[28] which was selected during initial phases of the project and was easily accessible by the team to have a general idea of community concerns. Detailed consultations will be carried out during the preparation of ESMPs and sub-project implementation. In general, local community had concerns regarding the environmental and social issues associated with the implementation of the project project/sub-projects. The concerns of potential PAPs/local community and their redress are presented in Table 5.1.

[27] The persons whose land, built–up structures, source of income / livelihood and access to the proprietary site is affected by the proposed Project are termed as primary stakeholders and others as secondary stakeholders.

[28] The consultations were carried out at Nankana Sahib which was selected as a project site during initial phases of the project. The community concerns are expected to be similar at other project sites which are presently included in the project scope.

Table 5.1: PAPs/ Community Concerns and their Redress

Concerns	Redress
Consultations with PAPs/ Local Community	
During the festivals, access roads, streets, passages are generally blocked and heavy barriers are installed, due to which, the routine movement/daily income generation activities of local community including women are disturbed.	The project will result in improvement of the infrastructure facilities in the vicinity of the archaeological sites which will improve the traffic flow.
During the festivals, most of the time, the District administration asked the local community to close their business/shops for several hours (8 to 10 hours) daily especially during the visit of tourists, while they are traveling from Nankana sahib to another Gurdwaras as 'Sucha Soda' (about 20-25 km).	There is need to minimize the close of business during tourist visit hours. The close of business/shops need to be considered only, when the tourists are moving to Sacha Soda and coming back to Nankana sahib. For rest of the day, the community should be allowed to do their business activities. Route for Tourists needs to be planned and fixed, so that the disturbance to the local people/ community should be avoided.
During festivals, most of the vehicles are parked unplanned, i.e. in the streets, in front of shops/houses, which causes disturbance/difficulties to the mobility of the local population including women.	The project includes the improvement of parking facilities which will help in improvement of the situation.
Due to lack of proper accommodation facilities for all tourists, high income tourists are generally accommodated within the historical sites (rooms), while other tourists face difficulties regarding their stay/accommodation. Only few hotels are available in the vicinity of most of these sites which are not enough to meet the demand of tourists.	The project includes the improvement of accommodation facilities which will help in improving the situation.
In the vicinity of Nankana Sahib, most of the land is owned by the Government (Auqaf Department) and most of the residents/business owners are occupant of the same land. In most of the cases they are not the legal owners rather they are just the occupants. In case of project implementation, proper relocation/resettlement is essential to avoid significant social impacts.	If land acquisition will be required for any sub-project or impact on livelihood is expected, Resettlement Action Plan (RAP) will be prepared identifying the eligibility and entitlement of compensation and allowance/assistance/resettlement assistance.
The project implementation may lead to impacts, such as: ▪ Relocation/reestablishment of residential/business structures. ▪ Livelihood disturbance of the vulnerable groups/local community. ▪ Disturbance in routine/daily activities of the local people of the area. ▪ Relocation of some religious structures (Mosques)	If there are any such impacts, RAP will be prepared identifying the eligibility and entitlement of compensation and allowance/assistance/resettlement assistance in accordance with the provision of RPF included in ESMF.
There will be pollution (air and noise) during the construction activities of the sub-project.	ESMP will be prepared and implemented to mitigate these issues.
No proper disposal of dirty water exists especially during the festival days.	Comment noted.

Consultative Meeting with UNESCO	
UNESCO emphasized on the following aspects during the consultation: ▪ Need to strengthen the knowledge, abilities, skills and behavior of people with direct responsibilities for heritage conservation and management; ▪ To improve institutional structures and processes through empowering decision-makers and policy-makers; and ▪ To introduce a dynamic relationship between heritage and its context that will lead to greater reciprocal benefits through an inclusive approach, such that outputs and outcomes follow on a sustainable basis. ▪ The need to create a buffer zone around the archaeological sites to avoid the flourishing of formal and informal commercial activities.	All of these points are well taken and would be given due consideration during project implementation.
Consultative Meeting with Youth Affairs, Sports, Archaeology & Tourism Department	
During consultation the department confirmed that archaeological remains at Taxila as well as monuments at Uchh Sharif and Katas Raj are protected under the Antiquities Act, 1975. However, the religious complexes of Rori Sahab, Darbar Sahab and Sacha Sauda are not protected under the Antiquities Act, 1975 and Punjab Special Premises (Preservation) Ordinance, 1985. However, Darbar Sahab is situated in close proximity of two important historical monuments i.e., Lahore Fort, Hazuri Bagh and Samadhi of Maharaja Ranjit Singh as well as Rohnai Gate which are protected under the Antiquities Act, 1975. Under Section of 22 of Antiquities Act, 1975 there is a restriction on execution of development works within a distance of 200 feet of a protected monument/site. However, under the same section the Director General of Archaeology is authorized to accord permission, after examining the pros and cons of such development on the historical monuments. Department highlighted that as detail of sub projects has not been provided to the them, it is not possible to judge whether there would be any negative impact of these projects on the protected monuments or otherwise. They can only examine the proposal once the details of sub-projects are provided to them e.g. height of the infrastructure, methodology to execute these projects, location (if these infrastructure falls within distance of 200 feet.) The department requested to provide requisite details to them at an early date to thoroughly examine them before commenting on any possible impact of these	This is a very valuable information shared by the department. At present, the sub-projects have not been identified fully. These will be identified during the implementation and will be screened for social, archaeological and environmental impacts. Once these are identified, these details will be shared with the department to obtain their views and advice.

sub-projects on the protected historical monuments and sites.	

5.3 Stakeholders' Participation and Consultations Framework

A continuous process of keeping the stakeholders' informed and receiving their feedback at various stages of Project implementation will be a good measure to improve the acceptability of the Project by the PAPs/local community and also ensuring the participation of the PAPs/local community and other stakeholders in the process of Project development. A strategy for public consultation during the implementation of the Project is delineated, for different stages of the project, i.e. design, construction and operation. The consultations framework at each stage is explained as in Table 5.2 below.

Table 5.2: Public Consultations/ Participation Framework

Objective	Target Stakeholders	Implementation Stage	Responsibility
Meetings/scoping sessions/ survey/interviews etc. to inform stakeholders about project and obtain feedback about the project design.	Potential PAPs/communities in the project area, general public, and line departments/ agencies especially archaeology department, Punjab, UNESCO and EPA, Punjab	Design Stage of sub-projects	PRMP/PIU
Public awareness campaigns/ scoping sessions to share the ESMP/RAP with the project affected persons/communities; and other stakeholders.	Potential PAPs/communities in the project area, general public; and line departments/ agencies.	Design/ Implementation Stage	PRMP/PIU
Consultations during formation of PAP Committees (PAPCs)	PAPs/communities in the project area	Construction Stage	PRMP/PIU
Setting of Grievance Redress and Community Complaint Register	PAPs/communities in the project area.	Construction Stage	PRMP/PIU
Consultations during internal monitoring	PAPs/communities in the project area	Construction Stage	PRMP/PIU
Fortnightly meetings at project sites	PRMP (PIU)/ Contractors/Consultants	Construction Stage	PRMP/PIU
Consultations with the Project Affected Persons/Communities during the Independent Monitoring	PAPs/communities in the project area	Construction Stage	PRMP/PIU/ Independent monitoring consultant
Consultations with the PAPs/Communities relating to the leftover tasks	PAPs/communities in the project area	Operation Stage	PRMP/ PIU
Consultations with the Project Affected Persons/communities during the site visits by the World Bank Review Missions	PRMP/PIU/contractors as well as project PAPs/ Communities	Construction/ Operation Stage	PRMP/ PIU

CHAPTER 6: IMPACT ASSESSMENT – POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

6.1 Component 1: Policy, Institutions and Governance for Tourism Development

Component 1 of the Project (as detailed in Section 2) will strengthen institutions and governance of the tourism industry in Punjab, prepare Management Plans for tourism site development, and create knowledge, marketing campaigns and establish partnerships for the promotion of tourism development. This component and associated sub-components do not involve any sort of physical works to be undertaken. As such, there are no potential environmental impacts associated.

6.2 Component 2: Private Investment and Entrepreneurship Promotion

Component 2 of the Project (detailed in Section 3), will focus on investment facilitation and promotion in tourism, and will finance trainings, equipment and minor works to improve skills formation in the tourism sector. This component and associated sub-components do not involve any sort of physical works to be undertaken. Therefore, there are no potential environmental impacts associated.

6.3 Component 3: Public Investment Facility

Under Component 3, the Project will finance some physical low-scale interventions to provide improved access, better road conditions and public convenience facilities. Sub-components involving the upgrading of secondary and tertiary road access and proposed interventions for public convenience facilities like the upgrading and building of new parking areas, and installation of tourist and family friendly facilities along the main transport network and near the sites, may have localized and reversible environmental impact. This section will detail the potential environmental and social impacts for each of the planned interventions and propose related mitigation measures.

This project will provide employment opportunities to local populations. It is anticipated that the sub-project will provide direct employment during the construction phase and another operational stage. Indirect employment.

6.3.1 Sub-component 3.1: Secondary and Tertiary Road Access

This sub-component will finance works and associated technical assistance to upgrade several roads in the project area including:

(i) 1 km of the Eminabad-Rori Sahib road,
(ii) 2 km of the GT road-Tope Mankial road,
(iii) 8 km of the Taxila Museum Mohra Muradu road,
(iv) 2 km of the Taxila Museum-Jaulian remains road.
(v) Other roads will be identified with development of master plans

Localized environmental impacts that may result during the Design, Construction and Operational phases, and the corresponding mitigation measures, are detailed below:

Potential Environmental Impacts and Mitigation Measures - Design Phase

1. Biodiversity Conservation and Natural Resource Management

Impacts – Most of the roads proposed for upgradation under this Project are located either in agricultural areas, while access roads for Gurdwara Sucha Sauda in Farooqabad pass through heavily populated urban areas. Due to the absence of naturally occurring forests in these areas, there is no potential impact on flora. Similarly, there are no wetlands, or any other type of natural habitat to support critical mammal or bird species. These areas supported agricultural ecology, which also has declined due to indiscriminate use of pesticides, herbicides and/or inorganic fertilizers. Hence impact on fauna is also negligible.

However, the upgradation of roads may require cutting down of trees lining the roads. Given the ancient history of the Project areas and use of these roads since long ago, there is a high probability that old indigenous species such as Banyan Trees may be located within the Project ROW.

Mitigation Measures

- Incorporate technical design measures to minimize removal of these trees, such as change in alignment;
- Plan for compensatory planting of eight trees against each fallen tree of similar floral function;
- Disallow introduction of invasive/ exotic species; and recommend native species for plantation.

2. Air Quality and Noise Levels

Impacts - Due to the upgrading of roads, noise pollution can be caused due to use of heavy machinery, and air pollution due to machinery emissions and/or dust due to earthing activities, can be caused.

Mitigation Measures

- Gather air quality and noise level baselines to enable monitoring during construction phase
- Incorporate traffic management plans that enable continuous traffic flow and avoid congestions which result in increased vehicle smoke density at a given area;
- Notify noise barriers in populated areas and areas close to the religious and historic tourism sites;
- Plan to measure emissions from construction machinery, including vehicles;
- Plan to neutralize dust emissions from construction activity, such as regular watering of project area to settle dust.

3. Solid Waste

Impacts - Improper solid waste disposal can result in increased air pollution through burning of waste, vector borne diseases, contamination of water sources and ambient aesthetics for surrounding communities.

Mitigation Measures

- Prepare a detailed Solid Waste Management Plan for the construction sites and labor camps;
- Identify current landfill sites or plan disposal sites with reasonable distance from human settlements and religious and historic sites;
- Do not allow siting and location of worker camps, including waste dump sites, in a distance closer than one (1) kilometer to any inhabited areas and religious and historic sites;
- Plan for placement of waste collection containers throughout the project area;
- Disallow burning of any of type of waste

- Prepare plans for the safe handling, storage and disposal of harmful materials.

4. Excavation of Earth

Impacts - The sub-component may require the excavation of earth from borrow areas, which may result in topsoil removal, holes that get filled with rainwater and/or agricultural runoff, creating a site for vectors to breed.

Mitigation Measures

- Avoid borrowing earth from plain agricultural land;
- Contractor should obtain approval for excavation and submit the plan of rehabilitating the site after excavation.

5. Workers Health and Safety

Impacts - Use of heavy machinery and handling of chemicals by workers may result in health impacts and accidents.

Mitigation Measures

- Prepare a Workers Health and Safety Plan for the construction phase.

6. Public Safety and Convenience

Construction activities and increased traffic due to upgraded road facilities may impact public safety of surrounding communities. Placement of workers camps next to communities' living areas may result in inconvenience, noise and conflict.

Mitigation Measures

- Plan for proper road signage during construction period, followed by provision of adequate and safe pedestrian crossings and signage once in operation especially for roads running through populated urban areas;
- Identify and propose alternative routes in areas where streets and roads may get blocked during construction;
- During design, locate the worker's camps at an adequate distance from local residential areas

7. Physical Cultural Resources

Impacts - The sub-component includes upgrading of access roads leading directly to religiously important and sacred sites. Due to the historic nature of these sites, there may be some negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery. The project area, especially Tope Mankiala, Taxila and Julian, Taxila have a frequent occurrence/find/discovery of ancient Buddhist relics from the Gandhara period. Excavation work during construction may result in the uncovering of ancient sites or artefacts.

Mitigation Measures

- Design of each sub-project will be discussed with the relevant institutions especially archaeology department, UNESCO and EPA. A PCR plan in accordance with World Bank OP 4.11 will be prepared, if required.
- Chance find procedures included in the ESMF should be adopted.

8. Land Acquisition, Resettlement, Loss of Livelihood

Impacts - This type of sub-project is not expected to involve land acquisition. It will be focused on repair of roads without widening them. Hence, land requirements are likely to be small scale and temporary such as for labour camps, temporary storage of equipment and machinery and for disposal of material.

Mitigation Measures

- If land acquisition/resettlement will be required or loss of livelihood will occur, impacts will be mitigated by preparing a RAP in accordance with the Resettlement Policy Framework (RPF), provided in this ESMF and WB OP 4.12.

9. Flooding

Impacts - Gurdwara Darbar Sahib at Kartarpur, Narowal is exposed to damage from probable flooding. In previous years' the access road has been severely damaged due to flooding from the tributaries of River Ravi located in close proximity of the Gurdwara, specifically the Baen Nullah. Similarly, other such sites are located in the floodplains of Punjab, which have been exposed to floods in the past.

Mitigation Measures

- Incorporate design specifications in the road design for reliance to flooding such as raised height, culverts and flood ways.

Potential Environmental Impacts and Mitigation Measures - Construction Phase

1. Soil

Impacts – Soil erosion may occur during the construction phase of the sub-component at the roadsides, contractor's camps, and embankments. This can be due to uncontrolled run-off from equipment washing yards, excavation of earth/cutting operations and clearing of vegetation. Unauthorized use of borrow areas and quarries may also cause soil erosion and degradation of landscape. This may limit the future use of land for agricultural purposes. There is also a chance of contamination of soil caused by oil and chemical spills at asphalt plant sites, workshop areas and equipment washing yards.

Mitigation Measures

- Low embankments will be protected by planting appropriate species such as vetiver grass ;
- Construct stone pitching or riprap across high embankments. This practice will also be applied across cross-drainage structures where embankments are more susceptible to erosion by water run- off;
- Minimize soil contamination by asphalt by placing containers in a secured area away from water courses;
- Provide impervious platforms in maintenance yards and storage areas with oil and grease traps for collection of spillage during storage of liquid fuel and lubes, and equipment and vehicle maintenance;
- Controlled disposal of oil, grease and chemicals, and restoration of site back to its original conditions before handing over;
- Non-bituminous wastes from construction activities will be dumped in approved sites, in line with the legal prescriptions for dumpsites;
- As applicable and needed, plantation of grasses and shrubs will be done for slope protection;
- Soil erosion checking measures such as the formation of sediment basins, slope drains, etc. will be carried out;

- Productive land or land adjacent to agricultural/irrigated land may not be used for excavation.

2. Air Quality

Impacts – Air quality will be affected by fugitive dust emissions from construction machinery, asphalt plants and vehicles. Emissions may be carried over longer distances depending upon the wind speed, direction, temperature of surrounding air and atmospheric stability.

Mitigation Measures

- Following of PEQS as performance indicators;
- Contractor shall provide an Emissions Monitoring Plan to ensure constant checking of emissions by construction machinery and vehicles;
- All vehicles, machinery, equipment and generators used during construction activities should be kept in good working condition and be properly tuned and maintained to minimize exhaust emissions; Contractor should provide an operations and maintenance plan for the same;
- Open burning of solid waste from the Contractor's camps should be strictly banned;
- Adoption of preventive measures against dust such as regular water sprinkling of the site including service roads and excavation sites;
- Stockpiled materials will be covered to avoid dust/particulate emission;
- Quarry areas and asphalt plants should be located at least 500m downwind from populated areas, and contractor's camps to minimize the impact of dust emissions;
- Asphalt, hot mix and batching plants should be equipped with dust control equipment such as fabric filters or wet scrubbers to reduce level of dust emissions.

3. Noise

Impacts – During construction, use of heavy machinery such as bulldozers, excavators, stabilizers, concrete mixing plant, pneumatic drills, stone crushers asphalt plants etc. can result in noise pollution and vibrations, causing discomfort and health hazards to workers and surrounding communities, especially those using the religious and sacred sites. Also, vibrations can harm the old and antiquate building structures of the Gurdwaras and/or Buddhist sites.

Mitigation Measures

- Use of modern and well maintained vehicles and machinery with reduced noise emission levels;
- Confining excessively noisy work to normal working hours in the day;
- Providing construction workers with suitable hearing protection such as earmuffs and training them in their use;
- Heavy machinery like percussion hammers and pneumatic drills should be used at a minimum level and should not be used at all during the night without prior approval of the Client;
- Use of noise barriers in sensitive areas in the form of high boundary walls (concrete or wood), next to the religious and sacred sites;
- Locating the rock crushing, concrete mixing, and materials shipment yards at least 2km from residential areas, and religious sites.

4. Waste Disposal

Impacts – Construction activities can result in the generation of wastewater, oil spillage from machinery, domestic waste from labor camps and construction related solid waste. The construction activities are not perceived to result in the production of any hazardous waste. As the project deals with

the construction of tertiary and secondary roads, no blasting is perceived nor is use of hazardous substances anticipated during the construction waste. However, caution is recommended in the handling and disposal of oil and asphalt, which may cause soil contamination and unhygienic living conditions for construction workers.

Mitigation Measures

- Wastewater effluent treatment: effluent from contractor's workshop and equipment washing yards would be passed through gravel/sand beds to remove oil and grease contaminants before discharging it into natural streams;
- Training of workers will be carried out in the storage and handling of materials and chemicals that can potentially cause soil contamination;
- Any blasting and/or use of toxic substances will be done with prior written approval of the client;
- Solid Waste Management Plan will be prepared for waste generated during construction and camp sites, and will be safely disposed in demarcated waste disposal sites; the contractor will follow the Waste Management Plan;
- Proper labelling of containers will be carried out, including the identification and quantity of the contents, hazard contact information etc.;
- Emergency Response Plan should be prepared to address the accidental spillage of fuels and hazardous goods, fire in labor camps and storage areas;
- Disposing non-usable bitumen spills in a deep trench providing clay linings at bottom and filled with soil at the top (for at-least 0.5m);
- Used oil should be collected in separate containers stored on impervious platform with restricted access and must be sold to licensed contractor;
- Burning of waste oil should be strictly prohibited;
- The sewage system for camps will be properly designed (pit latrines or, as required, septic tanks).

5. Surface and Groundwater

Impacts **–** Some of the project areas are surrounded by agricultural irrigated lands, while others run through urban populated areas. Nullahs, streams and irrigation canals may be contaminated due to the disposal of construction waste. Construction waste and oil spills, if left unattended will result in forming leachate that will percolate through the soil strata and may contaminate the groundwater table. Wastewater from sanitation facilities in the workers' camps may also result in contamination of subsoil water. Hand pumps and wells are commonly used sources of subsoil/groundwater for communities in these areas.

Mitigation Measures

- Proper disposal of solid waste in designated landfill sites to sustain the water and land quality for domestic requirements;
- Water required for construction should be obtained in a way so that water availability and supply to nearby communities remains unaffected;
- Regular water quality monitoring according to a determined sampling schedule;
- Debris Management Plan; The contractor will ensure that construction debris does not find its way into the drainage or irrigation canals which may get clogged;
- Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins and collect wastewater in sedimentation/retention pond;
- Construction work close to streams or other water bodies will be avoided, especially during monsoon period;
- Latrines at worker's camps must be located at least 50 meters from any sources of groundwater such as hand pumps and wells.

6. Flora and Fauna

Impacts – Due to the agricultural and urban nature of project areas, there are no potential impacts on local flora and fauna. There may be some cutting of trees for the construction of roads.

Mitigation – The following mitigation measures should be followed

- Planting of eight trees for every tree cut during construction;
- Do not introduce invasive or exotic species through plantation.

7. Public Health, Safety and Convenience

Impacts – Construction activities and movement of heavy vehicles at construction sites and access service roads may result in road side accidents, particularly with the local community who may not be familiar with the presence of heavy equipment. Roads and streets, particularly in urban areas may also be blocked during construction.

Mitigation Measures

- Train drivers operating heavy vehicles in road and pedestrian safety;
- Set appropriate speed limits to avoid accidents;
- Placement of construction and diversion signage, particularly at urban areas and at sensitive/accident-prone spots, in accordance to a Public Safety Plan;
- Provision of alternate routes for use by the public.

8. Workers Health and Safety

Impacts – Use of heavy machinery and handling of hazardous waste and chemicals may result in health impacts for workers on the construction site. Presence of asbestos in old and new building material is hazardous to health.

Mitigation Measures

- In accordance to the Workers Health and Safety Plan, ensure
    - Do not allow workers with inadequate training to operate heavy machinery;

- Provision of appropriate and high quality Personal Protective Equipment (PPE) to workers such as gloves, vests, hard-hats, masks etc.;
- Train workers in the use of PPE and safety measures while using heavy machinery and handling chemicals.

- Follow guidelines for Asbestos and Asbestos based product use in construction (Annex 5)

9. Physical Cultural Resources

Impacts - The sub-component includes upgrading of access roads leading directly to religiously important and sacred sites. Due to the historic nature of these sites, there may be some negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery. The project area, especially Tope Mankiala, Taxila and Julian, Taxila have a frequent occurrence/find/discovery of ancient Buddhist relics from the Gandhara period. Excavation work during construction may result in the uncovering of ancient sites or artefacts.

Mitigation Measures

- Limit noise and air pollution while working close to the religious and ancient sites;
- In case of discovery of ancient sites or artefacts during construction, follow the procedure for Archaeological Chance Finds included in ESMF.

In addition to the above suggested mitigation measures, sixteen (16) ECoPs are given in Annex 4- prepared in line with the World Bank Operational Policies and national regulatory system. These ECoPs are to be implemented by the Contractor during construction works.

10. Damage to Crops and Infrastructure

Impacts - Upgrading of the secondary and tertiary roads may cause some damage to agricultural crops and public or private infrastructure may get damaged.

Mitigation Measures

- All such impacts on crops will be mitigated by payment of market price of crops in accordance with RPF. The damage to infrastructure will be minimized by relocating them. The infrastructure which cannot be relocated will be compensated in accordance with provision of RPF.

Potential Environmental Impacts and Mitigation Measures - Operation Phase

1. Air and Noise Pollution

Impacts - An increase in traffic due to upgraded roads and tourism facilities may result in higher levels of air and noise pollution once the road is operational.

Mitigation Measures

- Setting up of a system to monitor air quality along project area in accordance with the applicable standards/limits;
- Planting of sound barriers such as trees and hedges, particularly around the religious and sacred sites;
- Train local communities to identify and implement special measures such as hedges and vegetation to reduce air and noise pollution;
- Regular road maintenance to ensure good surface condition;

- Placement of signs in sensitive zones and around religious and sacred sites to prohibit the use of horns.

2. Public Health and Safety

Impacts - An increase in traffic due to upgraded roads and tourism facilities, and increase in car speeds due to better roads may result in a higher frequency of accidents involving the local community and livestock.

Mitigation Measures

- Awareness raising of local communities in road safety;
- Arrange awareness sessions on public safety for visitors during special festivals;
- Placement of adequate signage for pedestrians and drivers on road conditions, rules, populated and sensitive areas etc.
- Setting and enforcement of speed limits.

6.3.2 Sub-component 3.2: Public Convenience Facilities and Basic Services

This sub-component will finance works, equipment and TA for basic infrastructure such as:

(i) parking facilities, washroom facilities and rest areas that are missing around the main sites and along key access roads;

(ii) arrival lounges and terminals at Badami Bagh Lahore railway station, Gurdwara Sacha Sauda Sahib and Gurdwara Rori Sahib, including expansions and upgrading of seating, ceiling fans, hand railings and safety barriers;

(iii) development of facilities at Tope Mankiala, Rawalpindi;

(iv) conversion of the Punjab Archaeology Office at Katas Raj into a tourist center; and

(v) priority investments in the master plans under Component 1.2 with the aim of reducing any negative impact of an increase in tourist arrivals on the consumption of surrounding communities. Alternate power supply arrangements will be supported given the shortage of electricity in targeted areas. These interventions will be limited in scope and attention will be paid to improve facilities for women, children, elderly and people with disabilities.

There may be some localized environmental impacts that result due to civil works undertaken as part of this sub-component. The impacts and corresponding mitigation measures for the Design, Construction and Operational Phase of this sub-component are detailed below.

<u>Potential Environmental Impacts and Mitigation Measures – Design Phase</u>

1. Biodiversity Conservation

Impacts **–**Civil works under this sub-component will be undertaken in mostly built up area close to religious sites and public transport stations, or along access roads that are surrounded by agricultural lands. Due to the urban and agricultural nature of these areas, there is an absence of naturally occurring forests or habitat, hence no perceivable impact on flora. Similarly, there are no wetlands, or any other type of natural habitat to support critical mammal or bird species. These areas supported agricultural ecology, which also has declined due to indiscriminate use of pesticides, herbicides and/or inorganic fertilizers. Hence impact on fauna is also negligible. However, building of facilities such as parking areas, washrooms and rest areas along access roads may result in the cutting of some trees. Given the ancient history of the Project areas and use of these roads since long ago, there is a high probability that old indigenous species such as Banyan Trees may be located within the Project area.

Mitigation Measures

- Incorporate technical design measures to minimize removal of these trees;
- Design facilities in such a way as to incorporate old and large trees as part of the facility;
- Plan for compensatory planting of eight trees against each fallen tree of similar floral function;
- Disallow introduction of invasive/ exotic species; and recommend native species for plantation.

2. Air Quality and Noise Levels

Impacts **–**Construction of new facilities and renovation of existing facilities may result in noise pollution due to use of heavy machinery, and air pollution due to machinery emissions and/or dust due to earthing activities.

Mitigation Measures

- Gather air quality and noise level baselines to enable monitoring during construction phase;
- Notify noise barriers in populated areas and areas close to the religious and historic tourism sites;
- Plan to measure emissions from construction machinery, including vehicles;
- Plan to neutralize dust emissions from construction activity, such as regular watering of project area to settle dust.

3. Solid Waste Management

Impacts - Improper solid waste disposal can result in increased air pollution through burning of waste, vector borne diseases, contamination of water sources and ambient aesthetics for surrounding communities.

Mitigation Measures

- Prepare a detailed Solid Waste Management Plan for the construction sites and labor camps;
- Identify current landfill sites or plan disposal sites with reasonable distance from human settlements and religious and historic sites;
- Do not allow siting and location of worker camps, including waste dump sites, in a distance closer than one kilometer to any inhabited areas and religious and historic sites;
- Plan for placement of waste collection containers throughout the project area;
- Disallow the burning of any of type of waste;
- Prepare plans for the safe handling, storage and disposal of harmful materials;
- Prepare Solid Waste Management Plans for main project sites for the operational phase (including adequate placement of waste bins, requirements of sanitary staff, transportation of waste, and identification of landfill sites).

4. Soil

Impacts - Improper siting of facilities, especially those located along access roads and near main sites can lead to loss of vegetative cover and removal of trees, causing soil erosion and loss of useful agricultural land.

Mitigation Measures

- Selection of sites that will result in minimal loss of agricultural land and soil erosion;

5. Surface and Groundwater

Impacts – The project areas are located in agricultural irrigated lands and in populated urban areas. There is a presence of rivers and streams near the main sites. The communities in these areas use hand pumps and wells as a source of municipal water (for drinking, washing, bathing, etc.). The sub-component includes construction of washroom facilities around main sites and replacement of public facilities. Improper design of toilets and sewage treatment and disposal systems can lead to surface, sub-surface and ground water contamination. Location of construction sites near rivers and streams can cause contamination from construction waste.

Mitigation Measures

- Avoid siting of facilities near rivers, streams and nullahs;
- Design of toilets should include sewage disposal such as septic tanks with soaking pits;
- Toilets should be built at least 50m away from hand pumps and wells to avoid contamination.

6. Workers Health and Safety

Impacts - Use of heavy machinery and handling of chemicals by workers can result in health impacts and accidents.

Mitigation Measures

- Prepare a Worker Health and Safety Plan for the construction phase.

7. Public Health, Safety and Convenience

Impacts - Construction activities may impact public safety of surrounding communities. Placement of workers camps next to communities' living areas may also result in inconvenience, noise and conflict. During the upgradation process (construction activities) of arrival lounges and terminals, the regular visiting and influx of tourists especially at religious festivals can result in greater inconvenience and disruption for the general public (including the visitors). Once operational, a large concentration of people in a confined area can result in a high number of casualties if there is an emergency of any sort (fire, earthquake etc.).

Mitigation Measures

- Plan for proper signage during construction period, followed by provision of adequate and safe pedestrian walkways;
- During design, locate and site the worker's camps at an adequate distance from local residential areas;
- Plan alternate arrival and terminal facilities in case of any disruption during construction;
- Prepare a Fire Safety Plan and Emergency Evacuation Plan including identification of fire/emergency exits, placement of fire extinguishers, first aid kits, evacuation plans etc.

8. Physical Cultural Resources

Impacts - Due to the historic nature of the main sites, there may be some negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery. The project area, especially Katas Raj contains ancient sites. Excavation work during construction may result in the uncovering of ancient sites or artefacts.

Mitigation Measures

- A PCR plan accordance with World Bank OP 4.11 will be prepared, if required.
- Chance find procedures included in the ESMF will be adopted.

9. Land Acquisition, Resettlement, Loss of Livelihood

Impacts - Construction of new parking facilities and rest areas or their expansion along access roads and main sites, may require some land acquisition.

Mitigation Measures

- If land acquisition/resettlement will be required or livelihood will be affected, impacts will be mitigated by preparing a RAP in accordance with the RPF, provided in this ESMF and WB OP 4.12.

10. Flooding

Impacts - Gurdwara Darbar Sahib at Kartarpur, Narowal is exposed to damage from probable flooding. In previous years the Gurdwara boundary and its access road have suffered some damage from the tributaries of River Ravi located in close proximity of the Gurdwara, especially Baen Nullah. Similarly, other similar sites are located in the floodplains of Punjab and are susceptible to flooding.

Mitigation Measures

- Choose site for accommodation facilities that will be less vulnerable to flooding;
- Incorporate design specifications such as raised height and boundary walls.

Potential Environmental Impacts and Mitigation Measures – Construction Phase

1. Soil

Impacts – Soil erosion may occur during the construction of facilities due to uncontrolled run-off from equipment washing yards, excavation of earth/cutting operations and clearing of vegetation. Unauthorized use of borrow areas and quarries may also cause soil erosion and degradation of landscape. This may limit the future use of land for agricultural purposes. Disposal of contaminated construction wastes and left over construction material can lead to soil contamination.

Mitigation Measures

- Removal of vegetation and trees will be avoided to the extent possible;
- The exposed soil will be re-vegetated quickly and compensatory plantation will be followed, i.e. 8 trees to be planted for every tree cut;
- Provide impervious platforms in maintenance yards and storage areas with oil and grease traps for collection of spillage during storage of liquid fuel and lubes, and equipment and vehicle maintenance;
- Controlled disposal of oil, grease and chemicals, and restoration of site back to its original conditions before handing over;
- Contractors to follow proper handling and disposal of construction waste and materials in designated landfill sites;
- The contractor will ensure prevention of soil erosion and destabilization by applying batched excavation technique;
- Productive land or land adjacent to agricultural/irrigated land may not be used for excavation.

2. Air Quality

Impacts – Ambient air quality will be affected by fugitive dust emissions and fumes from construction machinery and vehicles. Emissions may be carried over longer distances depending upon the wind speed, direction, temperature of surrounding air and atmospheric stability.

Mitigation Measures

- Following of PEQS as performance indicators;
- Contractor shall provide an Emissions Monitoring Plan to ensure constant checking of emissions by construction machinery and vehicles; Contractor should provide an operations and maintenance plan for the same;
- All vehicles, machinery, equipment and generators used during construction activities should be kept in good working condition and be properly tuned and maintained to minimize exhaust emissions;
- Open burning of solid waste from the Contractor's camps should be strictly banned;
- Stockpiled materials will be covered to avoid dust/particulate emission;
- Adoption of preventive measures against dust such as regular water sprinkling of the site including service roads and excavation sites;

3. Noise and Vibrations

Impacts – During construction, use of heavy machinery such as bulldozers, excavators, stabilizers, concrete mixing plant, etc. can result in noise pollution and vibrations, causing discomfort and health hazards to workers and surrounding communities, especially those using the religious and sacred sites. Also vibrations can harm the old and antiquate building structures of the Gurdwaras and/or Buddhist sites.

Mitigation Measures

- Use of modern and well maintained vehicles and machinery with reduced noise emission levels;
- Confining excessively noisy work to normal working hours in the day;
- Providing construction workers with suitable hearing protection such as earmuffs and training them in their use;
- Use of noise barriers in sensitive areas in the form of high boundary walls (concrete or wood), next to the religious and sacred sites;
- Locating the concrete mixing, and materials shipment yards at least 2km from residential areas, and religious sites.

4. Waste Disposal

Impacts – Construction activities can result in the generation of wastewater, oil spillage from machinery, domestic waste from labor camps and construction related solid waste. The construction activities are not perceived to result in the production of any hazardous waste. As the project deals with the construction of civic facilities, no blasting is perceived nor is use of hazardous substances anticipated during the construction waste.

Mitigation Measures

- Wastewater effluent treatment: effluent from contractor's workshop and equipment washing yards would be passed through gravel/sand beds to remove oil and grease contaminants before discharging it into natural streams;
- Training of workers will be carried out in the storage and handling of materials and chemicals that can potentially cause soil contamination;
- Any blasting and/or use of toxic substances will be done with prior written approval of the client;
- Solid Waste Management Plan will be prepared for waste generated during construction and camp sites, and will be safely disposed in demarcated waste disposal sites; the contractor will follow the Waste Management Plan;
- Proper labelling of containers will be carried out, including the identification and quantity of the contents, hazard contact information etc.;
- Emergency Response Plan should be prepared to address the accidental spillage of fuels and hazardous goods, fire in labor camps and storage areas;
- Burning of waste oil should be strictly prohibited;
- The sewage system for camps will be properly designed (pit latrines or, as required, septic tanks).

5. Surface and Groundwater

Impacts – Some of the project areas are surrounded by agricultural irrigated lands, while others are in populated area. Nullahs, streams and irrigation canals may be contaminated due to the disposal of construction waste. Construction waste and oil spills, if left unattended will result in forming leachate that will percolate through the soil strata and may contaminate the groundwater table. Wastewater from sanitation facilities in the workers' camps may also result in contamination of subsoil water. Hand pumps and wells are commonly used sources of subsoil/groundwater for communities in these areas.

Mitigation Measures

- Proper disposal of solid waste in designated landfill sites to sustain the water quality for domestic requirements;
- Water required for construction should be obtained in a way so that water availability and supply to nearby communities remains unaffected;
- Regular water quality monitoring according to a determined sampling schedule;
- Debris Management Plan; The contractor will ensure that construction debris does not find its way into the drainage or irrigation canals which may get clogged;
- Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins and collect wastewater in sedimentation/retention pond;
- Construction work close to streams or other water bodies will be avoided, especially during monsoon period;
- Latrines at worker's camps must be located at least 50 meters from any sources of groundwater such as hand pumps and wells.

6. Flora and Fauna

Impacts – Due to the agricultural and urban nature of project areas, there are no perceived impacts on local flora and fauna. There may be some cutting of trees for the construction of parking facilities, rest areas and accommodation facilities.

Mitigation Measures

- Planting of eight trees for every tree cut during construction;
- Do not introduce invasive or exotic species through plantation.

7. Public Health, Safety and Convenience

Impacts – Construction activities and movement of heavy vehicles at construction sites and service roads may result in road side accidents, particularly with the local community who may not be familiar with the presence of heavy equipment. During the upgradation process (construction activities) of arrival lounges and terminals, the regular visiting and influx of tourists especially at religious festivals can result in greater inconvenience and disruption for the general public (including the visitors).

Mitigation Measures

- Train drivers operating heavy vehicles in road and pedestrian safety;
- Set appropriate speed limits to avoid accidents;
- Placement of construction signage, particularly at urban areas and at sensitive/accident-prone spots, in accordance to a Public Safety Plan;
- Provision of alternate facilities for use by the public where disrupted
- Implement the Fire Safety Plan and Emergency Evacuation Plan focusing on construction activities and labor camps including signage of fire/emergency exits, placement of fire extinguishers, first aid kits, etc.

8. Workers Health and Safety

Impacts – Use of heavy machinery and handling of hazardous waste and chemicals may result in health impacts for workers on the construction site. Presence of Asbestos in old and new construction material is hazardous for health.

Mitigation Measures

- In accordance to the Workers Health and Safety Plan, ensure
    - Provision of appropriate and high quality PPE to workers such as gloves, vests, hard-hats, masks etc.;
    - Train workers in the use of PPE and safety measures while using heavy machinery and handling chemicals;
- Follow guidelines for Asbestos and Asbestos based product use in construction (Annex 5)

9. Physical Cultural Resources

Impacts - Due to the location of some project close to religious and sacred sites, there may be some negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery. There is also a chance that excavation work during construction may result in the uncovering of ancient sites or artefacts.

Mitigation Measures

- Limit noise and air pollution while working close to the religious and ancient sites;
- In case of discovery of ancient sites or artefacts during construction, follow the procedure for Archaeological Chance Finds.

In addition to the above suggested mitigation measures, sixteen (16) ECoPs are given in Annex 4 - prepared in line with the World Bank operational policies and national regulatory system. These ECoPs are to be implemented by the Contractor during construction works.

10. Damage to Crops and Infrastructure

Impacts - The works may cause some damage to agricultural crops and public or private infrastructure may get damaged.

Mitigation Measures

- All such impacts on crops will be mitigated by payment of market price of crops in accordance with RPF. The damage to infrastructure will be minimized by relocating them. The infrastructure which cannot be relocated will be compensated in accordance with provision of RPF.

Potential Environmental Impacts and Mitigation Measures - Operation Phase

1. Air and Noise Pollution

Impacts - An increase in traffic due to upgraded tourism facilities may result in higher levels of air and noise pollution once the road is operational. Burning of solid waste from tourist facilities and accommodations can result in air pollution.

Mitigation Measures

- Setting up of a system to monitor air quality along project area in accordance with the applicable standards/limits;
- Planting of sound barriers such as trees and hedges, particularly around the religious and sacred sites;
- Train local communities to identify and implement special measures such as hedges and vegetation to reduce air and noise pollution;
- The exposed soil around main sites and tourism facilities will be re-vegetated and landscaped with community participation to control dust blowing;
- Signage around main religious sites to prohibit use of horns;
- Prohibit burning of solid waste.

2. Soil

Impacts - Disposal of municipal waste from tourist facilities and wastewater from toilets can lead to soil contamination

Mitigation Measures

- Ensure that toilets and associated sewage treatment systems are maintained in proper working condition;
- Proper collection and disposal of municipal waste in designated landfills.

3. Surface and Groundwater

Impacts - Disposal of municipal waste from tourist facilities and wastewater from toilets in open streams and nullahs can lead to surface and groundwater contamination

Mitigation Measures

- Ensure that toilets and associated sewage treatment systems are maintained in proper working condition;
- Proper collection and disposal of municipal waste in designated landfills.

4. Public Safety

Impacts - An increase in traffic due to upgraded tourism facilities may result in a higher frequency of accidents involving the local community and livestock. Once operational, a large concentration of people in a confined area can result in a high number of casualties if there is an emergency of any sort (fire, earthquake etc.).

Mitigation Measures

- Awareness raising of local communities in road safety;
- Arrange awareness sessions on public safety for visitors during special festivals;
- Placement of adequate signage for pedestrians and drivers on road conditions, rules, populated and sensitive areas etc;
- Setting and enforcement of speed limits.
- Implement the Fire Safety Plan and Emergency Evacuation Plan including signage of fire/emergency exits, placement of fire extinguishers, first aid kits, etc.

5. Waste Disposal

Impacts - Improper waste disposal at the tourism sites can lead to an increase in vector borne diseases, contamination of soil and water, and create an overall unpleasant atmosphere. Given the religious and sacred nature of the main sites, the operational phase of the project will include large religious gatherings with thousands of people visiting the religious sites. This will result in large quantities of waste being generated in short time periods.

Mitigation Measures

- Implement Solid Waste Management Plans for main project sites (including adequate placement of waste bins, requirements of sanitary staff, transportation of waste, and identification of landfill sites) involving the site management and visitors
- Arrange awareness sessions for local community and management of tourism sites for proper implementation of the Waste Management Plan;
- Placement of adequate signage for visitors on cleanliness and proper disposal of waste.

6.4: Environmental and Social Monitoring and Management Plan

6.4.1 Mitigation & Monitoring of Environmental Impacts

Table 6.1 describes the implementation of mitigation measures for potential environmental impacts and monitoring plan.

Table 0.1: Environmental Mitigation Implementation and Monitoring Plan

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
DESIGN PHASE						
	1. Biodiversity Conservation and Natural Resource Management					
i)	Upgradation of roads and building of facilities may require cutting of trees. There is a high probability that old indigenous species such as Banyan Trees may be located within the Project area.	• Incorporate technical design measures to minimize removal of trees, such as change in alignment; • Design facilities in such a way as to incorporate old and large trees as part of the facility; • Plan for compensatory planting of five trees species against each	Project Implementation Consultants (PIC) Design Engineers[29]	• Construction designs and maps • Project plans • Compensatory Tree Plantation Plans • Tree Species	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU, Contractor, Project Director

[29] as part of the Design Team

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		fallen tree of similar floral function; • Disallow introduction of invasive/ exotic species; and recommend native species for plantation.				
	2. **Air Quality and Noise Levels**					
i)	Noise pollution due to use of heavy machinery, and air pollution due to machinery emissions and/or dust due to earthing activities	• Gather air quality and noise level baselines to enable monitoring during construction phase; • Plan to measure emissions from construction machinery, including vehicles;	Project Implementation Consultants (PIC)	• Baselines • Emissions Measurement Plans	Once at the beginning of project	Environmental Safeguards Officer – PIU/, contractor, Project Director
		• Incorporate traffic management plans that enable continuous traffic flow and avoid congestions which result in increased vehicle smoke density at a given area;	Project Implementation Consultants (PIC)	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, contractor, Project Director

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		• Notify noise barriers in populated areas and areas close to the religious and historic tourism sites; • Plan to neutralize dust emissions from construction activity, such as regular watering of project area to settle dust.				
	3. Solid Waste					
i)	Improper solid waste disposal can result in increased air pollution through burning of waste	• Disallow burning of any of type of waste	Project Implementation Consultants (PIC) Contractor, Project Coordinator[30]	• Construction site plans and guidelines	At design of project	Environmental Safeguards Officer – PIU/, Project Director
ii)	Improper solid waste disposal can result in vector borne diseases, contamination of	• Prepare a detailed Solid Waste Management Plan for the construction sites and labor camps;	Project Implementation Consultants (PIC) Project Coordinator	• Construction designs and plans (including labor camps)	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director

[30]Project Coordinator is a position suggested in PAD within the management structure to be setup within the PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	water sources and worsened ambient aesthetics for surrounding communities	• Identify current landfill sites or plan disposal sites with reasonable distance from human settlements and religious and historic sites; • Do not allow siting and location of worker camps, including waste dump sites, in a distance closer than one (1) kilometer to any inhabited areas and religious and historic sites; • Plan for placement of waste collection containers throughout the project area; • Prepare plans for the safe handling, storage and disposal of harmful materials; • Prepare Solid Waste Management Plans for main project sites for the				

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		operational phase (including adequate placement of waste bins, requirements of sanitary staff, transportation of waste, and identification of landfill sites).				
	4. Excavation of Earth					
i)	Excavation of earth may result in topsoil removal	• Avoid borrowing earth from plain agricultural land; • Contractor should obtain approval for excavation and submit the plan of rehabilitating the site after excavation.	Project Implementation Consultants (PIC)	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director
ii)	May result in holes that get filled with rainwater and/or agricultural runoff, creating a site for vectors to breed.	• Contractor should obtain approval for excavation and submit the plan of rehabilitating the site after excavation.	Project Implementation Consultants (PIC)	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	5. Soil					
i)	Improper siting of facilities, especially those located along access roads and near main sites can lead to loss of vegetative cover, removal of trees, erosion and loss of useful agricultural land.	• Selection of sites that will result in a minimal loss of trees, agricultural land and soil erosion	Project Implementation Consultants (PIC)	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director
	6. Surface and Groundwater					
i)	Improper design of toilets and sewage treatment and disposal systems can lead to surface and ground water contamination.	• Design of toilets should include sewage treatment such as septic tanks with soaking pits; • Toilets should be built at least 50m away from hand pumps and wells to avoid contamination.	Project Implementation Consultants (PIC) Project Coordinator	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director
ii)	Location of construction sites near rivers and streams can cause	• Avoid siting of facilities near rivers, streams and nullahs;	Project Implementation Consultants (PIC)	• Construction designs and plans	At the time of design preparation	Environmental Safeguards Officer – PIU/, Project Director

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	contamination from construction waste.		Project Coordinator		At the time of design finalization	
	7. Workers and Public Health, Safety and Convenience					
i)	Increased traffic and construction activities may result in accidents and impact public safety of surrounding communities.	• Plan for proper road signage during construction period, followed by provision of adequate and safe pedestrian crossings and walkways • Plan for signage once in operation especially for roads running through populated urban areas;	Project Implementation Consultants (PIC) Project Coordinator	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director
ii)	Upgrading of arrival lounges and terminals can result in inconvenience and disruption for the public.	• Plan alternate arrival and terminal facilities in case of any disruption during construction; • Identify and propose alternative routes in areas where streets and roads may get blocked during construction	Project Implementation Consultants (PIC) Project Coordinator	• Construction designs and plans	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
iii)	Placement of workers camps next to communities' living areas may result in inconvenience, noise and conflict.	• During design, locate the workers camps at an adequate distance from local residential areas	Project Implementation Consultants (PIC)	• Construction designs and plans are checked	At the time of design preparation At the time of design finalization	Environmental Safeguards Officer – PIU/, Project Director
iv)	Use of heavy machinery and handling of chemicals by workers may result in health impacts and accidents.	• Prepare a Workers Health and Safety Plan for the construction phase.	Project Implementation Consultants (PIC)	• Preparation of Workers Health and Safety Plan	At the time of design	Environmental Safeguards Officer – PIU/, Project Director
v)	A large concentration of people in a confined area can result in a high number of casualties if there is an emergency of any sort (fire, earthquake etc.)	• Prepare a Fire Safety Plan and Emergency Evacuation Plan including signage of fire/emergency exits, placement of fire extinguishers, first aid kits, etc.	Environmental Safeguards Officer - PIU	• Preparation of Public Safety Plans	At the time of design preparation	Project Director
8. Physical Cultural Resources						

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
i)	Negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery.	• Design of each sub-project will be discussed with the relevant institutions especially archaeology department, UNESCO and EPA. A PCR plan in accordance with World Bank OP 4.11 will be prepared, if required.	Social Safeguards Officer – PIU	• Consultation with the relevant departments • Preparation of PCR Plan, if needed.	At the time of design	Project Director
ii)	Excavation work during construction may result in the uncovering of ancient sites or artefacts.	• Chance find procedures have been included in the ESMF.	Social Safeguards Officer – PIU	• Adopting the chance find procedures.	At the time of design	Project Director
	9. Land Acquisition and Resettlement					
i)	This type of sub-project is not expected to involve land acquisition. It will be focused on repair of roads without widening	• If land acquisition/resettlement will be required or loss of livelihood will occur, impacts will be mitigated by preparing a RAP in accordance with the RPF,	Social Safeguards Officer– PIU	• Preparation of RAP	At the time of design	Project Director

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	them. Hence, land requirements are likely to be small scale and temporary such as for labour camps, temporary storage of equipment and machinery and for disposal of material.	provided in this ESMF and WB OP 4.12..				
	10. Flooding					
i)	Chance of flooding from tributaries of River Ravi and Chenab	• Incorporate design specifications in the road design for reliance to flooding such as raised height, culverts and flood ways. • Choose site for accommodation facilities that will be less vulnerable to flooding; • Incorporate design specifications such as	Project Implementation Consultants (PIC) Project Coordinator	• Construction plans and maps	At the time of design preparation	Project Director Environmental Safeguards Officer - PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		raised height and boundary walls.				
CONSTRUCTION PHASE						
1. Soil						
i)	Soil erosion due to uncontrolled run-off from equipment washing yards	• Low embankments will be protected by planting appropriate species such as vetiver grass; • Construct stone pitching or riprap across high embankments. This practice will also be applied across cross-drainage structures where embankments are more susceptible to erosion by water run- off;	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Project Director Environmental Safeguards Officer - PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
ii)	Soil erosion due to excavation of earth/cutting operations and clearing of vegetation.	• Removal of vegetation and trees will be avoided to the extent possible; • The exposed soil will be re-vegetated quickly and compensatory plantation will be followed, i.e. 8 trees to be planted for every tree cut; • As applicable and needed, plantation of grasses and shrubs will be done for slope protection; • Soil erosion checking measures such as the formation of sediment basins, slope drains, etc., will be carried out; • The contractor will ensure prevention of soil erosion and destabilization by applying batched excavation technique;	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Project Director Environmental Safeguards Officer - PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
iii)	Erosion and degradation of landscape due to unauthorized use of borrow areas and quarries	• Productive land or land adjacent to agricultural/irrigated land may not be used for excavation.	Contractor Project Implementation Consultants (PIC)	• Approval of excavation sites • Physical Inspection	Quarterly	Project Director
iv)	Contamination of soil caused by oil and chemical spills at asphalt plant sites, workshop areas and equipment washing yards.	• Minimize soil contamination by asphalt by placing containers in a secured area away from water courses; • Provide impervious platforms in maintenance yards and storage areas with oil and grease traps for collection of spillage during storage of liquid fuel and lubes, and equipment and vehicle maintenance; • Controlled disposal of oil, grease and chemicals, and restoration of site back to its original conditions before handing over;	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Project Director Project Coordinator Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		• Non-bituminous wastes from construction activities will be dumped in approved sites, in line with the legal prescriptions for dumpsites;				
	2. Air Quality					
i)	Air quality will be affected by fugitive emissions from construction machinery, asphalt plants and vehicles etc.	• Following of PEQS as performance indicators; • Contractor shall provide an Emissions Monitoring Plan to ensure constant checking of emissions by construction machinery and vehicles; • All vehicles, machinery, equipment and generators used during construction activities should be kept in good working condition and be properly tuned and maintained to minimize exhaust	Contractor Project Implementation Consultants (PIC)	• Air Quality Monitoring Report (including vehicular and machinery emissions)	Quarterly	Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		emissions; Contractor should provide an operations and maintenance plan for the same; • Open burning of solid waste from the Contractor's camps should be strictly banned;				
	Air quality will be affected by fugitive dust emissions from, asphalt plants, excavation etc.	• Adoption of preventive measures against dust such as regular water sprinkling of the site including service roads and excavation sites; • Stockpiled materials will be covered to avoid dust/particulate emission; • Quarry areas and asphalt plants should be located at least 500m downwind from populated areas, and contractor's camps to minimize the impact of dust emissions;	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Project Coordinator Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		• Asphalt, hot mix and batching plants should be equipped with dust control equipment such as fabric filters or wet scrubbers to reduce level of dust emissions.				
	3. Noise and Vibrations					
i)	Use of heavy machinery such as bulldozers, excavators, stabilizers, concrete mixing plant, pneumatic drills, stone crushers asphalt plants etc. can result in noise pollution and vibrations, causing discomfort and health hazards to workers and surrounding communities, especially those	• Use of modern and well maintained vehicles and machinery with reduced noise emission levels; • Confining excessively noisy work to normal working hours in the day; • Providing construction workers with suitable hearing protection such as earmuffs and training them in their use; • Heavy machinery like percussion hammers and pneumatic drills should be used at a minimum	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Project Coordinator Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	using the religious and sacred sites.	level and should not be used at all during the night without prior approval of the Client;				
ii)	Vibrations can harm the old and antiquate building structures of the Gurdwaras and/or Buddhist and Hindu sites.	• Use of noise barriers in sensitive areas in the form of high boundary walls (concrete or wood), next to the religious and sacred sites; • Locating the rock crushing, concrete mixing, and materials shipment yards at least 2km from residential areas, and religious sites.	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Project Coordinator Environment Safeguards Officer – PIU
	4. Waste Disposal					
i)	Construction activities can result in the generation of wastewater, oil spillage from machinery, domestic waste from labor	• Wastewater effluent treatment: effluent from contractor's workshop and equipment washing yards would be passed through gravel/ sand beds to remove oil and grease	Contractor Project Implementation Consultants (PIC)	• Waste Management Report • Emergency Response Procedures	Quarterly	Project Director Project Coordinator Construction Engineers

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	camps and construction related solid waste.	contaminants before discharging it into natural streams; • Training of workers will be carried out in the storage and handling of materials and chemicals that can potentially cause soil contamination; • Any blasting and/or use of toxic substances will be done with prior written approval of the client; • Solid Waste Management Plan will be prepared for waste generated during construction and camp sites, and will be safely disposed in demarcated waste disposal sites; the contractor will follow the Waste Management Plan; • Proper labelling of containers will be carried out, including the identification and		• Physical Inspection		Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		quantity of the contents, hazard contact information etc.; • Emergency Response Plan should be prepared to address the accidental spillage of fuels and hazardous goods, fire in labor camps and storage areas; • Disposing non-usable bitumen spills in a deep trench providing clay linings at bottom and filled with soil at the top (for at-least 0.5m); • Used oil should be collected in separate containers stored on impervious platform with restricted access and must be sold to licensed contractor;				

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		• Burning of waste oil should be strictly prohibited; • The sewage system for camps will be properly designed (pit latrines or, as required, septic tanks).				
5. Surface and Groundwater						
i)	Nullahs, streams and irrigation canals may be contaminated due to the disposal of construction waste.	• Proper disposal of solid waste in designated landfill sites to sustain the water and land quality for domestic requirements; • Water required for construction should be obtained in a way so that water availability and supply to nearby communities remains unaffected; • Regular water quality monitoring according to a determined sampling schedule;	Contractor Project Implementation Consultants (PIC)	• Water Quality Testing Reports • Debris Management Procedures • Physical inspection of mitigation measures	Quarterly	Environment Safeguards Officer – PIU Project Coordinator
ii)	Construction waste and oil spills, if left unattended will result in forming leachate that will percolate through the soil strata and may contaminate the groundwater table.					

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		• Debris Management Plan; The contractor will ensure that construction debris does not find its way into the drainage or irrigation canals which may get clogged; • Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins and collect wastewater in sedimentation/retention pond; • Construction work close to streams or other water bodies will be avoided, especially during monsoon period;				
iii)	Wastewater from sanitation facilities in the workers' camps may also result in contamination of subsoil water. Hand	• Latrines at worker's camps must be located at least 50 meters from any sources of groundwater such as hand pumps and wells.	Contractor Project Implementation Consultants (PIC)	• Location of latrines	At time of construction	Project Coordinator Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	pumps and wells are commonly used sources of subsoil/groundwater for communities in these areas.					
	6. Flora and Fauna					
i)	There may be some cutting of trees for the construction of roads and basic facilities.	• Planting of eight trees for every tree cut during construction; • Do not introduce invasive or exotic species through plantation.	Contractor Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	Quarterly	Environment Safeguards Officer – PIU
	7. Public Health, Safety and Convenience					
i)	Construction activities and movement of heavy vehicles at construction sites and access service roads may result in road side accidents,	• Train drivers operating heavy vehicles in road and pedestrian safety; • Set appropriate speed limits to avoid accidents; • Placement of construction and diversion signage, particularly at urban areas	Project Implementation Consultants (PIC)	• Physical inspection of mitigation measures	At start of construction. Quarterly to ensure compliance	Project Director Project Coordinator Construction Engineers

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	particularly with the local community	and at sensitive/accident-prone spots, in accordance to a Public Safety Plan;				Environment Safeguards Officer – PIU
ii)	Roads and streets, particularly in urban areas may also be blocked during construction. Upgrading of arrival lounges and terminals can result in inconvenience and disruption for the public.	• Provision of alternate routes and alternate facilities for use by the public.	Contractor Project Implementation Consultants (PIC)	• Construction site plans	At start of construction and quarterly for compliance	Project Coordinator Environment Safeguards Officer – PIU
	8. Workers Health and Safety					
i)	Use of heavy machinery and handling of hazardous waste and chemicals may result in health impacts for	In accordance to the Workers Health and Safety Plan, ensure • Provision of appropriate and high quality Personal Protective Equipment (PPE) to workers such as	Contractor Project Implementation Consultants (PIC)	• Check implementation of Plan	Quarterly	Project Coordinator Environment Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	workers on the construction site.	gloves, vests, hard-hats, masks etc.; • Train workers in the use of PPE and safety measures while using heavy machinery and handling chemicals; • Follow guidelines for Asbestos and Asbestos based product use in construction (Annex 5)				
9. Physical Cultural Resources						
i)	There may be some negative impacts due to air and noise pollution, and vibrations due to movement of heavy vehicles and use of heavy machinery.	• Limit noise and air pollution while working close to the religious and ancient sites;	Contractor Project Implementation Consultants (PIC)	• Noise and air pollution monitoring reports	Quarterly	Environment Safeguards Officer – PIU Social Safeguards Officer – PIU

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
ii)	Excavation work during construction may result in the uncovering of ancient sites or artefacts.	• In case of discovery of ancient sites or artefacts during construction, follow the procedure for Archaeological Chance Finds.	Contractor Project Implementation Consultants (PIC)	• Chance Find Procedure • Physical inspection of mitigation measures	At time of discovery	Social Safeguards Officer – PIU DCO Project Director
10. Damage to Crops and Infrastructure						
	Upgrading of the secondary and tertiary roads may require some damage to agricultural crops may occur and public or private infrastructure may get damaged.	• All such impacts on crops will be mitigated by payment of market price of crops in accordance with RPF. The damage to infrastructure will be minimized by relocating them. The infrastructure which cannot be relocated will be compensated in accordance with provision of RPF.	Contractor	• Physical inspection of mitigation measures	Quarterly	Social Safeguards Officer – PIU DCO Project Director
OPERATION PHASE						
1. Air and Noise Pollution						

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
i)	An increase in traffic due to upgraded roads and better tourism facilities may result in higher levels of air and noise pollution once the road is operational.	• Setting up of a system to monitor air quality along project area in accordance with the applicable standards/limits; • Planting of sound barriers such as trees and hedges, particularly around the religious and sacred sites; • Train local communities to identify and implement special measures such as hedges and vegetation to reduce air and noise pollution; • Regular road maintenance to ensure good surface condition; • Placement of signs in sensitives zones and around religious and sacred sites to prohibit the use of horns; • The exposed soil around main sites and tourism	Relevant local departments	• Air and Noise Monitoring Reports • Physical availability	Annually	DCO EPA

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		facilities will be re-vegetated and landscaped with community participation to control dust blowing;				
ii)	Burning of solid waste from tourist facilities and accommodations can result in air pollution.	• Prohibit burning of solid waste.	Management of tourist facilities	• Tehsil Municipal Administration (TMA) Waste Management Procedures • Physical inspection	Annually	DCO EPA
	2. Public Safety					
i)	An increase in traffic due to upgraded roads and tourism facilities, and increase in car speeds due to better roads may result in a higher frequency of accidents involving	• Awareness raising of local communities in road safety; • Arrange awareness sessions on public safety for visitors during special festivals; • Placement of adequate signage for pedestrians	Relevant local department	• Awareness Raising Campaigns (Content and Number)	Annually	DCO EPA

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	the local community and livestock.	and drivers on road conditions, rules, populated and sensitive areas etc; • Setting and enforcement of speed limits.				
ii)	A large concentration of people in a confined area can result in a high number of casualties if there is an emergency of any sort (fire, earthquake etc.)	• Implement the Fire Safety Plan and Emergency Evacuation Plan including signage of fire/emergency exits, placement of fire extinguishers, first aid kits, etc.	Management of tourist facilities	• Implementation Procedures in place for Fire Safety and Emergency Response	Annually	DCO EPA Rescue 1122
	3. Soil					
i)	Disposal of municipal waste from tourist facilities and wastewater from toilets can lead to soil contamination	• Ensure that toilets and associated sewage treatment systems are maintained in proper working condition; • Proper collection and disposal of municipal waste in designated	Management of tourist facilities Tehsil Municipal Administration (TMA) Water and Sanitation Authority (WASA)	• Physical inspection	Quarterly	DCO EPA

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
		landfills, following the Waste Management Plans.				
	4. Surface and Groundwater					
i)	Disposal of municipal waste from tourist facilities and wastewater from toilets in open streams and nullahs can lead to surface and groundwater contamination	• Ensure that toilets and associated sewage treatment systems are maintained in proper working condition; • Proper collection and disposal of municipal waste in designated landfills following the Waste Management Plans.	Management of tourist facilities TMA	• Physical inspection	Quarterly	DCO
	5. Waste Disposal					
i)	Improper waste disposal at the tourism sites can lead to an increase in vector borne diseases, contamination of soil	• Implement Solid Waste Management Plans for main project sites (including adequate placement of waste bins, requirements of sanitary staff, transportation of	Management of tourist facilities TMA	• Physical inspection	Quarterly	DCO

	Implementation Plan			Monitoring Plan		
	Environmental Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameter(s)**	**Frequency**	**Responsibility**
	and water, and create an overall unpleasant atmosphere	waste, and identification of landfill sites) • Arrange awareness sessions for local community and management of tourism sites for proper implementation of the Waste Management Plan; • Placement of adequate signage for visitors on cleanliness and proper disposal of waste.				

6.5 Assessment of Physical Cultural Resources

Negative impacts on cultural properties generally fall into the following broad categories: damage, destruction, wear, removal, burial, modification, change of use, neglect, denial of access, and desecration. Each of these impacts may, in turn, arise from a variety of causes. The cultural properties impacted are not necessarily located on the subproject construction or engineering sites, and in some cases may be far away.

However, there can be some indirect adverse impacts due to air and dust pollution, vibration and other construction activities.

These impacts will be identified during the sub-project screening and assessed (if required) during the preparation of the detailed ESMP of the sub-projects.

CHAPTER 7: ENVIRONMENTAL AND SOCIAL SCREENING

7.1 Sub-Project Screening and Impact Assessment Process

While preparing any sub-projects, the ESMF will be followed to screen sub-projects and to determine the appropriate safeguards instruments which will be required in line with the World Bank Operational Policies. The following guidelines, codes of practice and requirements will be followed in the screening, selection, design and implementation of any sub-project.

- Criteria for the type of assessment to be conducted for sub-projects are provided in Annex-6. The sub-projects will be screened for social, environmental and archaeological impacts using screening form attached as Annex-7. Category-A sub-projects will not be financed under this project. If Category-A sub-project is identified, sub-project will be either dropped or replaced with a Category B or C sub-project. Environmental and Social Management Plans (ESMPs) will need to be prepared and clearance obtained from the Bank prior to initiating environmental category 'B' sub-projects; For sub-projects categorized as Category C, no further activity beyond screening would be required. The guidelines for preparation of ESMPs are attached as Annex-8. The assessments will also be submitted to the relevant EPA for obtaining No Objection Certificate (NOC) before commencing the sub-projects implementation, in line with the provincial regulatory requirements.
- If social impacts related to land, resettlement, livelihood, infrastructure damage are identified during screening process, the sub-projects will also be screened for need of land acquisition and resettlement using Involuntary Resettlement Screening Checklist Attached as Annex-9. If confirmed, necessary planning efforts will be carried out to develop mitigation measures in accordance with RPF presented in Chapter-8 of this ESMF.
- All projects/subprojects will be screened for impacts on physical cultural resources and necessary mitigation measures. An outline of Physical Cultural Resource Management Framework providing a roadmap for preparing a Physical Cultural Resource Management Plan for the protection of cultural property and chance discovery of archaeological artifacts, unrecorded graveyards and burial sites are outlined in Annex-10.
- ESMPs of sub-projects should be made part of all construction contracts to ensure effective implementation.
- The Environment, Health and Safety Guidelines developed by the International Finance Corporation (IFC) and the World Bank will also be applicable to the activities under the emergency projects/subprojects.
- Subject to the needs as determined by the Bank's safeguards' team, the implementing agency will engage independent technical resources to conduct an annual environmental and social audit as third party validation, of the subprojects undertaken during each year of the Project implementation.

7.2 Planning Review and Approval

PIU will be responsible for the screening and preparation of any safeguards instrument required in line with this Framework. PIU will submit the safeguard documents for World Bank's review and clearance. The implementation agencies will not approve the proposed operations until the required environmental and social safeguard action plans are cleared for compliance with the Framework by the World Bank.

The implementing agency will implement the projects in close coordination with the relevant line departments, local governments, and political agents. The implementing agency will be responsible for applying the safeguard screening and mitigation requirements to its own sub-projects. It should also be ensured that other necessary NOCs should also be obtained from all other departments before commencing works of any sub-project.

CHAPTER 8: RESETTLEMENT POLICY FRAMEWORK

8.1 Land Requirements under the Project

The Project is expected to mostly have small scale and temporary requirements for land. Anticipated sub-projects and their land requirements are mentioned below:

Road Rehabilitation: This type of sub-project is not expected to involve land acquisition. It will be focused on repair of roads without widening them. Hence, land requirements are likely to be small scale and temporary such as for labour camps, temporary storage of equipment and machinery and for disposal of material.

Waiting areas: This type of sub-project is expected to repair, upgrade and refurnish existing waiting lounges near transport and tourist facilities. It will not require land acquisition. However, screening will be required to ensure that there are no squatters, encroachments etc. Further, temporary land acquisition may be required for construction purposes.

Toilets: This type of sub-project will consists of refurbishment and upgrading, no land will be required. In case new facilities are built, land needs will need to be assessed. Proper screening for land ownership and impact of livelihoods will need to be undertaken.

Parking Facilities: This will require upgrading of existing parking areas. Where these are extended, land acquisition will be required.

Most of the sub-projects will thus have small-scale and temporary requirements for land. Wherever, land acquisition becomes necessary, a RAP will be prepared and implemented.

8.2 Objectives of RPF

The RPF has been developed to guide preparation of RAP should the screening process defined in Chapter-7 identify the resettlement of PAPs or any land acquisition.

Implementation of any sub-project requiring land acquisition will not commence before a RAP has been prepared and implemented. The RAP will lay out provisions for land and other compensation, other assistance required for relocation of PAPs, prior to displacement, as well as livelihood restoration measures. In particular, the taking of land and related assets can happen only after compensation has been paid and other allowances and entitlements have been provided to displaced persons and measures have been taken to ensure livelihood restoration. The selection of sub-projects will be based on the following principles:

- Involuntary resettlement and land acquisition should be avoided where feasible, or minimized, exploring all viable alternative sub projects design;
- Where involuntary resettlement and land acquisition is unavoidable, resettlement and compensation activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to give the persons displaced by the project the opportunity to share

in project benefits. Displaced and compensated persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs; and

- Displaced and compensated persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

8.2 Eligibility and Cut-off-Date

In accordance with the World Bank OP 4.12, census will be required to identify the person/persons who will be affected by the project to determine the eligibility for compensation and other resettlement assistance[31].

The project affected persons eligible for compensation or rehabilitation/resettlement assistance are discussed below:

- All land owning affected persons losing land or non-land assets, whether covered by legal title or customary land rights, whether for temporary or permanent acquisition;
- Tenants and sharecroppers, whether registered or not; for all non-land assets, based on prevailing tenancy arrangements;
- Persons losing the use of structures and utilities, including titled and non-titled owners, registered, unregistered, tenants and lease holders plus encroachers and squatters;
- Persons losing business, income and salaries of workers, or a person or business suffering temporary effects, such as disturbance to land, crops, and business operations both permanently and also temporarily during construction;
- Loss of communal property, lands and public infrastructure;
- Vulnerable persons identified through the census/impact assessment survey/analysis; and
- In case of relocation, all affected persons will receive transitional and other support to re-establish their livelihoods.

The compensation eligibility will be limited by a 'cut-off date' for the proposed project on the day of the start of the "census" survey for the impact assessment in order to avoid an influx of outsiders. The cut-off date[32] will be announced through mass media (like pamphlets/leaflets, newspaper). The project affected persons who are settled within the alignment after the cut-off date will not be eligible for compensation.

[31] Resettlement assistance may consist of land, other assets, cash, employment, and so on, as appropriate.

[32] Normally, this cut-off date is the date the census begins. The cut-off date could also be the date the project area was delineated, prior to the census, provided that there has been an effective public dissemination of information on the area delineated, and systematic and continuous dissemination subsequent to the delineation to prevent further population influx.

8.3 Entitlement for Compensation

The following entitlements are applicable for the project affected persons losing land, structures, and other assets and incurring income losses. These displaced persons are eligible for rehabilitation subsidies and for the compensation of lost land, structures and utilities along with loss of livelihood. There will also be special provisions for vulnerable displaced persons.

1.3.1 Agricultural Land Impacts:

(a) Permanent Losses:

- Legal/legalizable landowners (including who may have customary rights) are compensated either in cash at replacement cost plus a 15% compulsory acquisition surcharge (CAS) free of taxes and transfer costs;
- Leaseholders of public land will receive rehabilitation in cash equivalent to the market value of the gross yield of lost land for the remaining lease years (up to a maximum of three years); and
- Encroachers will not receive payment for land – they will be rehabilitated for land use loss through a special self-relocation allowance equivalent to one year of agricultural income or through the provision of a free or leased replacement.

(b) Temporary Land Loss

Legal/legalizable owners and tenants or encroachers will receive cash compensation equal to the average market value of rental of land. For agriculture land, compensation will be paid for each lost harvest for the duration of the loss, and by the restoration of both, cultivable and uncultivable land, to pre-construction conditions. Through specification in the contract agreements, Contractors will be required to carry out restoration works before handing over land back to the original occupiers, or PAPs will be provided with cash to rehabilitate the land.

(c) Severely Project Affected Persons

- Vulnerable households, legal/legalizable owners, tenants or encroachers will be entitled to one vulnerable impact allowance equal to the market value of the harvest of the lost land for one year (summer and winter), in addition to the standard crop compensation.
- The aim of this payment is to assist severely displaced persons to overcome the short term adverse impacts of land and asset loss, and help them to readjust to their changed circumstances while they are making replacement earning arrangements. There will be a need to closely monitor such severely displaced persons. The one-time payment should, at the absolute minimum be adequate to provide them with equivalent level of livelihood.
- Other options can be considered, including non-cash based livelihood support and employment, both temporary and permanent. Other additional income restoration measures can be considered during preparation of RAP, if required for any sub-project.

1.3.2 Residential and Commercial Land

- Residential and commercial land will be compensated at replacement value for each category of the PAPs.

- Residential and commercial land owners will be entitled to the following:

    - Legal/legalizable owners will be compensated by means of either cash compensation for lost land at replacement cost based on the market value of the lost land plus a 15% CAS, free of taxes and transfer costs; or in the form of replacement land of comparable value and location as the lost asset;

    - Renters are compensated by means of cash compensation equivalent to three months of rent or a value proportionate to the duration of the remaining lease, including any deposits they may lose; and

    - Squatters/Encroachers are compensated through either a self-relocation allowance covering six months of income or the provision of a leased replacement plot in a public owned land area. They will be compensated for the loss of immovable assets, but not for the land that they occupy.

1.3.3 All Other Assets and Incomes

- Structures will be compensated for in cash at replacement cost plus 15% CAS. There will also be a 10% electrification allowance plus any transaction costs will be paid. Material that can be salvaged is allowed to be taken by the owner, even if compensation has been paid for it;

- Renters or leaseholders of a house or structure are entitled to cash compensation equivalent to three months rent or a value proportionate to the duration of the remaining lease period;

- Crop compensation will be paid to owners, tenants and sharecroppers based on their agreed shares. The compensation will be the full market rate for one year of harvest including both winter and summer seasons;

- Fruit and other productive trees will be compensated for based on rates sufficient to cover income replacement for the time needed to re-grow a tree to the productivity of the one lost. Trees used as sources of timber will be compensated for based on the market value of the wood production, having taken due consideration of the future potential value;

- Businesses will be compensated for with cash compensation equal to one year of income for permanent business losses. For temporary losses, cash compensation equal to the period of the interruption of business will be paid up to a maximum of six months or covering the period of income loss based on construction activity;

- Workers and employees will be compensated with cash for lost wages during the period of business interruption, up to a maximum of three months or for the period of disruption;

- Relocation assistance is to be paid for PAPs who will be required to vacate their property. The level of assistance should be adequate to cover transport costs and also special livelihood expenses for at least 1 month or based on the severity of impact;

- Community structures and public utilities, including mosques and other religious sites, graveyards, schools, health centers, hospitals, roads, water supply and sewerage lines, will be fully replaced or rehabilitated to ensure their level of provision is, at a minimum, to the pre-project situation; and
- Vulnerable people are defined as households who have a per capita monthly income[33] of below Rs.15,000/- and those who are identified as vulnerable in the RAP (prepared for any sub-project, if required). They also include households faced with disability and women-headed households.

8.4 Entitlement Matrix

The compensation and resettlement & rehabilitation entitlements are summarized in the Entitlement Matrix presented as Table 8.1 below:

Table 8.1: Entitlement Matrix

Asset	Specification	Project Affected Persons	Compensation Entitlements[34]
Temporary impacts on arable land	Access is not restricted and existing or current land use will remain unchanged	Farmers/ Titleholders	- No compensation for land acquisition provided that the land is rehabilitated/restored to its former quality following completion of works; - Rental for land will be provided in cash based on the use of land and in accordance with market value. - Compensation, in cash, for all damaged crops and trees as per item below.
		Leaseholders *(registered or not)*	- No compensation for land provided that the land is rehabilitated/restored to its former quality following completion of works; Land rental will be provided in accordance with market value. - Compensation, in cash, for all damaged crops and trees as per item below.
		Sharecroppers *(registered or not)*	- Compensation, in cash, for all damaged crops and trees. Land rental will be provided in accordance with market value.
		Agricultural workers	- Compensation, in cash, for all damaged crops and trees.
		Squatters	- Compensation, in cash, for all damaged crops and trees, where these are owned by the squatters.
Permanent impacts on Arable land	All adverse effects on land use	Farmers/ Titleholders	- Land for land compensation with plots of equal value and productivity to the plots lost; or;

[33] This figure is based on the official poverty line (OPL) (2015-16) using the minimum wages that are fixed by the Government.

[34] Compensation for all assets will be to the owner of the asset.

Asset	Specification	Project Affected Persons	Compensation Entitlements[34]
where access is restricted and/or land use will be affected	independent of severity of impact		- Cash compensation plus 15% CAS for affected land at replacement cost based on market value free of taxes, registration, and transfer costs.
		Leaseholders *(registered or not)*	- Renewal of lease contract in other plots of equal value/productivity of plots lost, or - Cash equivalent to market value of gross yield of affected land for the remaining lease years (up to a maximum of 3 years).
		Sharecroppers *(registered or not)*	- Cash equivalent to market value of the lost harvest share once (temporary impact) or twice (permanent impact).
		Agricultural workers losing their contract	- Cash indemnity corresponding to their salary (including portions in kind) for the remaining part of the agricultural year.
		Squatters	- 1 rehabilitation allowance equal to market value of 1 gross harvest (in addition to crop compensation) for land use loss.
	Additional provisions for severe impacts (More than 10% of land loss)	Farmers/ Titleholders Leaseholders	- 1 severe impact allowance equal to market value of gross harvest of the affected land for 1 year (inclusive of winter and summer crop and additional to standard crop compensation).
		Sharecroppers *(registered or not)*	- 1 severe impact allowance equal to market value of share of harvest lost (additional to standard crop compensation)
		Squatters	- 1 severe impact allowance equal to market value of gross harvest of the affected land for 1 year (inclusive of winter and summer crops and additional to standard crop compensation)
Residential/ Commercial Land		Titleholders	- Land for land compensation through provision of a plots comparable in value/ location to plot lost or - Cash compensation plus 15% CAS for affected land at full replacement cost free of taxes, registration, and transfer costs.
		Renters/ Leaseholders	- 3 months rent or a value proportionate to the duration of the remaining lease, including any deposits they may lose.
		Squatters	- Accommodation in available alternate land/ or a self-relocation allowance (*Rs. 15,000).*
Houses/		All relevant PAPs	- Cash compensation plus 10%

Asset	Specification	Project Affected Persons	Compensation Entitlements[34]
Structures		(including squatters)	electrification allowance at replacement rates for affected structure and other fixed assets free of salvageable materials, depreciation and transaction costs. - Affected tenants will receive cash compensation of a value proportionate to the duration of the remaining lease period, or three months, whichever is higher. - In case of partial permanent impacts full cash assistance to restore remaining structure, in addition to compensation at replacement cost for the affected part of the structure.
Crops	Crops affected	All PAPs owning crops(including squatters)	- All crop losses will be compensated at market rates based on actual losses.
Trees	Trees affected	All PAPs owning trees (including squatters)	- For timber/ wood trees, the compensation will be at market value of tree's wood content. - Fruit trees: Cash compensation based on lost production for the entire period needed to re-establish a tree of equal productivity.
Business/ Employment	Temporary or permanent loss of business or employment	All PAPs (including squatters, agriculture workers)	- Business owner: (i) Cash compensation equal to one year income, if loss is permanent; ii) In case of temporary loss, cash compensation equal to the period of the interruption of business up to a maximum of six months or covering the period of income loss based on construction activity. - Workers/ employees: Indemnity for lost wages for the period of business interruption up to a maximum of 3 months *(at OPL level Rs. 15,000/ month)*.
Relocation	Transport and transitional livelihood costs	All PAPs affected by relocation	- Provision of sufficient allowance to cover transport expenses and livelihood expenses for one month *(Rs. 15,000 per household)*.
Community assets	Mosques, foot bridges, roads,	Affected community	- Rehabilitation/substitution of affected structures/ utilities (i.e. mosques, footbridges, roads).
Vulnerable PAPs livelihood	Households' below poverty line and female headed	All vulnerable PAPs	- Lump sum one time livelihood assistance allowance on account of livelihood restoration support. OPL should be per household member Or Minimum Wage

Asset	Specification	Project Affected Persons	Compensation Entitlements[34]
	households, disable persons of HH.		per earning member per month. - Temporary or permanent employment during construction or operation, where ever feasible.
Unidentified Losses	Unanticipated impacts	All PAPs	- Deal appropriately during project implementation according to the World Bank Operational Policies.

8.5 Calculation for Compensation Payments

Individual and household compensation will be made in kind and/or in cash (refer to Table 8.2). Although the type of compensation may be an individual's choice, compensation in kind will be preferred, if available, when the loss amounts to more than 20 percent of the total loss of assets. Compensations for land and other assets (buildings and structures) are determined as follows:

Table 8.2: Forms of Compensation

Compensation	Notes
Cash Payments	Compensation will be calculated and paid in the national currency. Rates will be based on the market value of land and/or assets when known, or estimated when not known, plus compensation for the value of standing crops.
In-Kind	Compensation may include items such as land, houses, and other buildings, building materials, seedlings, agricultural inputs and financial credits for equipment.
Assistance	Assistance may include moving allowance, transportation and labour.

8.5.1 Land Valuation and Compensation

Under the present design, no permanent land acquisition is expected. Should there be any sub-project which necessitate permanent land acquisition and RAP preparation, the following procedure will be adopted, as per the LAA:

- PRMP will write to Revenue Department, Punjab for permanent land acquisition in the interest of welfare of the country;
- Revenue Mukhtiarkar will give a notice to land owner to produce the documents that prove land ownership;
- The land owner will provide the copy of the ownership document to Mukhtiarkar to prove ownership;
- Revenue Department will notify that the particular area is required for state welfare works permanently and hence section 4 and 6 of the LAA will be applied to that area;
- Following application of section 4 and 6 of the LAA, the price will be decided District Collector will pay the cheque to land owner in lieu of the required land.

Land will be valuated following a valuation process consistent with LAA 1894 and the provisions of RPF. For land valuation, Land Valuation Committees (LVC) will be formed comprising members from PRMP/PIU, local administration, PAPs and Project NGO (if any) with a mandate to fix the rates based on market survey and negotiation with the communities. Compensation will be based on the market rates on the cut-off date along with 15 percent over and above the cost of the land and other requirements of Sections 23 and 24 of LAA and RPF.

8.5.2 Buildings and Structures

Building, houses and structures will be compensated at replacement cost. Buildings/houses and structure valuation survey will be conducted by a joint team comprising members from PRMP/PIU and Consultants to assess the value of the houses and other infrastructural facilities. In this regard meetings will also be held with local people as well as local administration. The schedule rates for the compensation of different types of losses, such as residential and, commercial structures, community owned and religious structures and other such assets will be used as a base which will be escalated with the help of market survey. These unit rates will be discussed and agreed upon with local communities and the affected persons. The following procedures/methods will be used for the proper assessment of unit compensation values of different items/assets located as standard for valuation of assets.

- Houses are valued at replacement value/cost based on cost of materials, type of construction, labour, transport and other construction costs;
- Hand pumps and other utilities are valued at current installation cost; and
- The relocation cost is the amount needed to displace and relocate temporary assets at prevailing market prices without adding costs for transaction.

8.6 Preparing Resettlement Action Plan

Should the screening process identify any involuntary resettlement, OP 4.12 calls for the preparation of individual RAPs that must be consistent with this RPF.

To address the impacts under this policy, the RAP must include measures to ensure that the displaced persons are;

- Informed about their options and rights pertaining to resettlement;
- Consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives; and
- Provided prompt and effective compensation at full replacement cost for losses of assets and access attributable to the sub project.

Following are the major steps to be adopted for preparation of the RAP:

8.6.1 Baseline, Socio-economic Data, and Resettlement Surveys

An important aspect of preparing a RAP is to establish appropriate and accurate baseline socio-economic data and census to identify the persons who will be affected by the project, to determine who

will be eligible for compensation and assistance, and to discourage inflow of people who are ineligible for these benefits.

To identify the affected population and the possible adverse impacts, primary information will be collected through detailed resettlement assessment survey. This data will include:

- Inventory of houses, population and other assets will be developed by an inventory Performa and will be filled through resettlement assessment survey by the team;
- Focus Census to enumerate the affected people and to register them according to location including the land holdings;
- Household Income and Living Standard Survey for assessment of lost and affected household, enterprises and community's living standard level;
- Village Level Survey for all affected people as necessary covering the factual position regarding the social amenities, electricity, telephone, water supply, education facilities etc. and other community resources;
- Buildings/Houses Valuation Survey to assess the value of the houses and other infrastructural facilities. In this regard meetings will be held with locals as well as local administration;
- Women Status Survey to establish the baseline data for ascertaining the women status; and
- Consultation with affected population for effective mitigation measures and planning.

8.6.2 Resettlement Entitlement and Policy Matrix

An entitlement matrix consistent with the RPF will be developed. For the restoration of the living standards of the PAP, provision will be made so that people should be provided proper compensation and assistance to restore their livelihoods.

8.6.3 Implementation Arrangements

For effective implementation, RAP will describe the implementation arrangements. Identification of critical path actions, preparation of RAP implementation arrangements, compensation procedures and resettlement process will be described for an efficient and smooth implementation of RAP.

8.6.4 Preparation of Monitoring, Evaluation and Reporting Plan

The mitigation measures are effective only if properly monitored. For this purpose, proper Monitoring, Evaluation and Reporting plan will be prepared.

8.6.5 Grievance and Redress Mechanism (GRM)

Under the GRM, RAP will describe the options available to affected persons for grievance redressal they may have about the process, the identification of eligible people for compensation, the valuation and compensation and any other complaints they may have against the entire process. The GRM will be consistent with the provisions of RPF.

8.6.6 Cost Estimates

The RAP preparation and implementation costs, including cost of compensation, various eligible allowances, monitoring & evaluation, grievances redress and LAR administration, as well as contingencies, will be estimated and included in the RAP and will be considered an integral part of Project cost.

Cost estimation will be made during preparation of RAP. The RAP (s) will include a budget section indicating (i) unit compensation rates for all affected items and allowances, (ii) methodology followed for the computation of unit compensation rates, and (iii) a cost table for all compensation expenses including administrative costs and contingencies.

8.6.7 Public Consultation and Participation

Public consultation and participation will afford the PAPs an opportunity to contribute to both the design and implementation of the program activities. In so doing, the likelihood for conflicts between and among the affected and with the management committees will be reduced.

In recognition of this, particular attention will be paid to public consultation with PAPs, households, homesteads (including host communities) as well as NGOs when resettlement and compensation concerns are involved.

During RAP preparation, there must be adequate consultation and involvement of the local communities and the affected persons. Specifically, the affected persons must be informed about the intentions to use the earmarked sites for the project activities, facilities and structures. The affected persons must be made aware of:

- Their options and rights pertaining to resettlement and compensation;
- Specific technically and economically feasible options and alternatives for resettlement sites;
- Process of, and proposed dates for, resettlement and compensation;
- Effective compensation rates at full replacement cost for loss of assets and services; and
- Proposed measures to maintain or improve their living standards.

As a matter of strategy, public consultation will be an on-going activity taking place throughout the entire project cycle. Hence, public consultation will take place during the:

- Preparation of project designs
- Resettlement and compensation planning
- Drafting and reading/signing of the compensation contracts.
- Payment of compensations
- Resettlement activities

Public consultation and participation shall take place through local meetings, request for written proposals/comments, completion of questionnaires/application forms, public readings and explanations of the project interventions and requirements.

Public documents shall be made available in appropriate languages at the local levels. RAPs should be translated to local languages and made freely available at a public place accessible to the PAPs to which it is relevant. Public consultation measures shall take into account the low literacy levels prevalent in the rural communities, by allowing enough time for discussions, consultations, questions, and feedback.

8.6.8 Resettlement Action Plan

The indicative outline of RAP is given below and it will include the following components:

- Description of the project
- Potential Impacts
- Project Objectives
- Relevant findings of the socio-economic study
- Legal framework
- Institutional framework
- Eligibility
- Valuation of and compensation of losses
- Resettlement Entitlement and Policy Matrix
- Site selection, site preparation, and relocation
- Housing, infrastructure and social service
- Environmental protection and management
- Summary of Consultations
- Integration with host populations
- Grievance procedures
- Implementation Arrangements
- Monitoring and Evaluation (M&E)
- Implementation schedule
- Costs and budget

8.6.9 RAP Submission and Approval

The RAP(s), once prepared, will be submitted to the World Bank. World Bank will review the RAP for approval.

8.7 Resettlement Budget, Flow of Funds and Payment of Compensation

Finances for RAP cost, including compensation, allowances, and administration of RAP preparation and implementation, will be provided by the Government of Punjab as counterpart funds. Costs for external monitoring tasks can be allocated under the loan. In order to ensure that sufficient funds are available for RAP implementation, the Government will allocate 100% of the cost of compensation at replacement cost and expected allowances estimated in the RAP plus 15% of contingencies before RAP implementation. Funds will be transferred by the Govt. to the PIU. The District Collector will receive funds from the PIU and payment will be made directly to the affected persons without any delay, by way of crossed cheques, following issuance of notices as required by LAA 1894.

8.7 Institutional Arrangements for Implementing RAPs

For implementation of RAP, a Resettlement Unit (RU) will be instituted within the PIU by deploying the requisite staff. The composition of RU will include:

- Resettlement Officer (Head of Unit)
- Land Acquisition and Collector (Member-assisted by Tehsil Dar and Patwari)
- Assistant Resettlement Officer (Focal Member)
- Gender Specialist,
- Communication Officer (Member)
- Construction Supervision Consultant (Member)
- APs Representative (Member)

RU staff will work in close coordination with the Social Safeguards Officer and other staff already appointed at PIU. They will assist RU in all matters related to the land acquisition and resettlement.

The overall scope of work of RU will include:

- Updating, implementation and monitoring of RAP with the coordination of District administration, Revenue Department and other line Departments.

- Updating the census of PAPs linked with project impacts by type, category and severance and prepare compensation packages for each PAP on the basis of agreed unit rates and entitlements criterion;

- Disbursement of compensation, and community complaints etc.

- Have regular monthly meetings to review the progress regarding RAP implementation as per the schedule given in this resettlement plan.

- Organize, conduct and record meaningful/informed consultations participation with PAPs.

- Disclose project/LAR related information to PAPs and Development of database of PAPs

CHAPTER 9: INSTITUTIONAL ARRANGEMENTS

9.1 Institutional Setup

The ESMMP will be implemented under the overall supervision of the Project Director, PIU. The Project Director will be responsible for the implementation, monitoring and reporting of the ESMMP through the Environment and Social Safeguards Specialists to be appointed by the project. The Social Safeguards Officer will ensure implementation of the Resettlement Policy Framework and any other social safeguards related measures with the support of a Grievance Redress Mechanism (GRM) Specialists, Gender Specialist, Database/(Management Information Systems (MIS) Specialist and Social Mobilizers (male and female). Project Implementation Consultants (PIC) will be carrying out construction work through contractors. PIC will also be responsible for supervision of contractors work on the sites. At the site level, the DCOs will be responsible for execution of the sub-projects. The DCO's will also be involved in monitoring of ESMMP implementation.

9.2 Roles and Responsibilities of Project Team

Roles and responsibilities of the designated officers and project team have been detailed in Table 9.1 below. In cases of overlapping roles by more than one officer, the higher officer will have the authority to re-designate the roles and responsibilities of those officers in the best interest of the project and to ensure clarity of responsibilities for EMP implementation.

Table 0.1: Roles and Responsibilities of Designated Officers

Organization	Position	Responsibility
Project Implementation Unit (PIU)	Project Director	Ensure ESMMP implementation
Project Implementation Unit (PIU)	Environment Safeguards Officer	• Ensure implementation of the ESMMP during various stages of design and construction; • Ensure that timely and robust environmental monitoring is carried out in the field; • Ensure that the construction contracts include clauses for ESMMP implementation; • Ensure that environmental trainings are planned and implemented; • Overall monitoring and reporting of ESMMP; • Conduct financial management of the ESMMP; • Coordinate and ensure development of awareness material; • Commission annual third party validations of the project; • Prepare Environmental Quarterly Progress Reports (QPR) for the project.
Project Implementation Unit (PIU)	Social Safeguards Officer	• To carry out the screening of the sub-projects with respect to the social aspects as defined in the ESMF; • Monitor and check the proper implementation of all social mitigation measures as suggested in ESMF/ESMP; • Ensure compliance and implementation of national and provincial rules and regulations

		enforced by EPD, Punjab especially regarding social aspects; • Monitoring and evaluation of social related matters of the project and maintain a social complaint register to document social issues; • Top supervise the Contractor's activities and make sure that all the contractual obligations related to the social compliance are met; • Review of periodic environmental and social reports being prepared by the investor/contractor
Project Implementation Unit (PIU)	GRM Specialists (Male and Female-One Each)	• To ensure implementation of the GRM and timely addressal of grievances; • To assist the Grievance Redress Officer at PIU in GRM.
Project Implementation Unit (PIU)	Gender Specialist	• To ensure implementation and monitoring of gender related aspects.
Project Implementation Unit (PIU)	Complaint Officer/ Database/MIS Specialist	• To facilitate the implementation of the GRM; • To receive and record complaints and issue acknowledgment; • To maintain the record of all grievances and their status; • Maintain a record of all documentation produced.
Project Implementation Unit (PIU)	Social Mobilizers (one male, one female)	Carry out consultation with the locals with regards to any social issue that needs to be settled down.
Project Implementation Unit (PIU)	Construction Engineers	Ensure contractors are following all EMP requirements in construction works.
Project Implementation Unit (PIU)	M&E Officer	Random site monitoring.
District Administration	District Coordination Officers	• Ensure that EMP and RPF are being implemented by contractors at the site level; • Monitor implementation of EMP through regular site visits and report to PIU; • Responsible as Grievance Redress Officer at District Level.
Private Firm	Project Implementation Consultants (PIC)	Supervision of EMP implementation during construction on sites.
Architects	Architects	Ensure inclusion of EMP guidelines in project designs.
Contractor	Contractor	Compliance with EMP guidelines.

Sample TOR for Environmental Specialist PIU is attached as Annex-11. TOR for hiring of social safeguard specialist will be prepared by PIU and shared with World Bank for approval before hiring the staff.

9.3 Monitoring Plan

9.3.1 Internal Monitoring– ESMMP

In addition to monitoring by the Environment and Social Safeguards Specialists, Project Coordinator will play a pivotal role in monitoring implementation of ESMMP especially where technical designs and construction related impacts are involved. Project Director will ensure that mitigation measures which require administrative approval remain under his/her direct reporting. In addition, Monitoring and Evaluation Officer can also be requested to conduct random monitoring of construction sites in the project areas, both during construction and operation. Monitoring reports will be submitted to the Environment Safeguard Officer in the PIU for necessary corrective action. The DCO in each of the districts will also conduct regular site monitoring that will be reported to the PIU.

9.3.2 Internal Monitoring – RAP

If RAPs are prepared for sub-projects, internal monitoring will be carried out routinely by the PRMP/PIU assisted by the RU and their results will be communicated to concerned Project Affected Persons and to World Bank through the quarterly project implementation reports. Indicators for the internal monitoring will be those related to process and immediate outputs and results. This information will be collected directly from the field by the RU and reported monthly to the PRMP to assess the progress and results of RAP implementation, and to adjust the work Program accordingly (if necessary). The monthly progress reports will be consolidated on quarterly basis and will be submitted to World Bank. Specific monitoring indicators will be as follows:

a) Information campaign and consultation with PAPs;
b) Status of land acquisition and payments on land compensation;
c) Compensation for affected structures and other assets;
d) Relocation of PAPs;
e) Payments for loss of income/ livelihood;
f) Selection and distribution of replacement land areas; and
g) Income restoration activities
h) Gender segregated analysis of RAP implementation
i) Progress on the gender sensitive grievance redress mechanism

The above information will be collected by the PRMP with the assistance of RU and field office which are responsible for monitoring the day-to-day social and resettlement activities of the project through the following instruments:

a) Review of census information for all PAPs;
b) Consultation and informal interviews with PAPs;
c) In-depth case studies;
d) Sample survey of PAPs;
e) Key informant interviews; and
f) Community/ public meetings/ consultations

9.3.3 External Monitoring/Third Party Validation – ESMMP

External Monitoring will be used to ensure that both construction and the operation phase activities have been undertaken in line with the ESMMP. Third Party Validation (TPV) exercises, conducted through an independent monitoring agency will be carried out on annual basis to evaluate the overall ESMMP compliance and implementation progress, and to ensure that the mitigation measures are

implemented as per the mitigation plan. In case of any deviation, corrective actions will be taken where necessary. For the TPV, environmental specialists with relevant expertise and previous experience will be engaged.

The PIU may hire the services of an environment expert (consultant), if required, to address issues related to environmental impact mitigation or non- conformity that emerge from monitoring activities.

9.3.4 External Monitoring – RAP

If RAPs are prepared for the sub-projects, external monitoring will be carried out twice a year, and its results will be communicated to all concerned PAPs, the PRMP/PIU and World Bank through quarterly and semi-annual reports. Sub-projects whose implementation time-frame will be under 6 months will be monitored on quarterly basis. The indicators for External Monitoring will include:

a) Review and verify internal monitoring reports prepared by the PRMP assisted by social safeguard specialist and its field offices;
b) Review of the socio-economic baseline census information of pre-project affected persons;
c) Identification and selection of impact indicators;
d) Impact assessment through formal and informal surveys/interview with the project affected persons;
e) Consultation with PAPs, officials, community leaders for preparing external monitoring report; and
f) Assess the resettlement efficiency, effectiveness, impact and sustainability, drawing lessons for future resettlement policy formulation and planning.

The external monitoring agency/consultant will also assess the status of project affected vulnerable groups such as female-headed households, disabled/elderly and families below the poverty line. The following will be considered as the basis for monitoring and evaluation of the project:

i). Socio-economic conditions of the PAPs in the post-resettlement period;
ii). Communications and reactions from PAPs on entitlements, compensation, options, alternative developments and relocation timetables etc.;
iii). Changes in housing and income levels;
iv). Rehabilitation of squatters;
v). Valuation of property;
vi). Grievance procedures/ mechanism;
vii). Disbursement of compensation; and
viii). Level of satisfaction of the PAPs in the post resettlement period.

The external monitoring agency/consultant will carry out a post-implementation evaluation of the RAP implementation about a year after completion of its implementation. The compelling reason for this study is to find out if the objectives of the RAP have been attained or not. The benchmark data of socioeconomic survey of severe impacts/severely affected PAPs conducted during the preparation of the RAP will be used to compare the pre and post project conditions. The external monitoring agency/consultant will recommend appropriate supplemental assistance/ or corrective action plan for the PAPs to ensure the accomplishment of objectives of the RAP.

9.4 Reporting

9.4.1 Environmental and Social Mitigation and Monitoring Plan

The Environment and Social Safeguards Officers will compile and evaluate monitoring reports from site engineers of PIC and Construction Engineers of PIU. The compiled reports and mid-course correction actions will be shared with the Project Director and World Bank. The Environment and Social Safeguards Officer will be responsible to prepare and circulate ESMMP progress reports on a quarterly basis. These Quarterly Progress Reports (QPRs) will provide progress on implementation of mitigation measures, safeguard monitoring, capacity building, and any other EMP implementation activity carried out during the reporting quarter. These reports will be shared with, among others, the World Bank within one month of the completion of each quarter. The QPR will include sub-sections including air quality monitoring, monitoring of emissions etc.

9.4.2 Resettlement Monitoring Reports

If RAPs are prepared for the sub-projects, the RU will prepare monthly progress reports on RAP implementation activities with assistance of social safeguards officer and will submit to the Project Director - PRMP and based on the monthly progress report, quarterly progress reports will be prepared and submitted to World Bank.

The Independent External Monitoring Consultants (IEMC) will submit quarterly external monitoring report and submit to the PRMP and the PRMP will further submit to World Bank for the review in order to assist in ascertaining whether resettlement goals have been achieved, and more importantly, whether livelihoods and living standards have been restored/enhanced.

The reports will include suitable recommendations for improvement. Monitoring reports will be submitted on regular intervals as specified (i.e. MPR and QPR). The M&E documents and other social reports will also be publicly available, including posting in project website.

9.5 Capacity Development and Trainings

9.5.1 Environmental and Social Mitigation and Monitoring Plan

Capacity building and training of the staff associated with EMP implementation will be required for effective environmental management. Specific trainings on environmental impacts and mitigation will be arranged for the Project Director, Environment and Social Safeguards Officers, Project Coordinator and other members of the Project Implementation Unit to deliver their monitoring responsibilities in an organized and effective manner as per requirement of the monitoring plan. The main objective of the trainings is to enhance the technical capacity of staff associated with ESMMP implementation and to keep the PIU Team, aware of the emerging environmental and social issues, and enable them to resolve those issues through proposed mitigation measures. Table 9.2 gives a tentative program for capacity building and trainings.

Nineteen workshops are to be held throughout the course of the project. This includes annual refresher trainings. The workshops will focus on environmental issues arising during ESMMP implementation, mitigation measures, and health & safety. They will also focus on sensitizing the participants about environmental responsibility, managing the on-ground problems, and assuring implementation of the ESMMP. Each workshop will have no more than thirty participants. In case of extra participants, extra workshops will be conducted.

Table 0.2: Capacity Building and Training Plan

Description of Training	Training Module	Location	Frequency	Participation
Two-day Training Workshop	Objectives, need and use of ESMF; Legal requirements of the EMP (Legislations and World Bank Operational Policies) ; Management of environmental issues and mitigation strategies as per EMP; Monitoring Mechanism Documentation and reporting procedures.	PIU Lahore	One workshop at the start of the project	PIU Staff including Project Director, Project Coordinator, Env and Social Safeguards Officers, Infrastructure Specialists, Engineers, M&E Officer etc.
One Day Training Workshop	ESMMP with special focus on mitigation measures during design stage	PIU Lahore	One training workshop at design stage of project	All architects, contractors, sub-contractors, and supervision consultants
One Day Training Workshop	ESMMP with special focus on mitigation measures during construction stage	PIU Lahore	One workshop every year during construction period of the project	All contractors, sub-contractors, and supervision consultants
One Day Training Workshop	ESMMP with special focus on mitigation measures during operational phase	PIU Lahore	One workshop every year during operational phase of the project	Ministry of Tourism/TDCP, ETBP/Auqaf, Local Govts/Municipalities, Local Community Reps., and other stakeholders
One Day Refresher Trainings	ESMMP Implementation and Reporting	PIU Lahore	One workshop every year	PIU Staff

9.5.2 RPF and PCR Related Trainings

The following Table 9.3 summarizes the training requirements of all the relevant staff to be involved in the implementation of RAP and PCR Management Plan.

Table 9.3: Capacity Building/ Training for the Implementation for RAP and PCR Management Plans

Module	Contents	Participants	Duration
RAP	• Application and use of RPF • Social Assessment process • LA process • Necessity for RAP and its preparation process • Implementation and Monitoring • Institutional Mechanism • Grievance Mechanism	RU, PIU, Consultants, Ministry of Tourism/TDCP, ETBP/Municipality, Local Community Reps., and other stakeholders	One day class room training. To be repeated annually
Cultural Properties Assessment Process	• Cultural properties assessment process • Description of project and national regulatory frameworks • Necessity for PCR Management Plan and its preparation process • Implementation and monitoring • Institutional mechanism	RU, PIU, Consultants, Ministry of Tourism/TDCP, ETBP/Auqaf, Local Govts/Municipality, Local Community Reps., and other stakeholders	One day class room training. To be repeated biannually.

CHAPTER 10: BUDGET FOR ESMF IMPLEMENTATION

10.1 Budget for ESMMP Implementation

This section provides the budget for implementing the ESMMP. The budget includes capacity building and mitigation costs.

Table 0.1: Budget for Capacity Building & Trainings for ESMMP

Training Component	One Day Workshop (PKR)	Two Day Workshop (PKR)
Training Design/Module Development	100,000	150,000
Training Manual/Reading Material	100,000	200,000
Resource Person Fee	50,000	100,000
Operational Costs (Venue, Refreshments, multimedia, stationary etc.)	120,000	200,000
Total Cost Per Workshop	370,000	650,000
Total Cost of Eighteen 1-Day and one 2-Day Workshops	6,660,000	650,000
Total Cost of 19 Workshops over project period	**7,310,000**	

Table 0.2: ESMMP Implementation Cost

Budget head	Description	Annual Cost (PKR)	Total Project Cost (6 years) (PKR)
Capacity Building and Training	Training of project staff, contractors, stakeholders etc.	1,218,333	7,310,000
Third Party Validation	Independent Monitoring Consultants	3,000,000	15,000,000
Mitigation Costs	To be built into BOQ/Bidding Document as part of project cost @ 2% of total project costs)	13,281,666	79,690,000
Total		**17,000,000**	**102,000,000**

10.2 Resettlement Budget and Financing

Finances for RAP cost, including compensation, allowances, and administration of RAP preparation and implementation, will be provided by the Government as counterpart funds. Costs for external monitoring tasks can be allocated under the loan. In order to ensure that sufficient funds are available for RAP implementation, the Governments will have to allocate 100% of the cost of compensation at replacement cost and expected allowances estimated in the RAP plus 15% of contingencies before RAP Implementation. Cost of 12 workshops related to RAP and PCRs is estimated as Rs. 4,440,000/-

CHAPTER 11: GRIEVANCE REDRESSAL MECHANISM

11.1 General

The Grievance Redress Mechanism (GRM) is an institutional arrangement to provide an avenue to address complaints and issues raised by stakeholders. It also provides important feedback on the operational activities of the project. The main purpose of the GRM for this project is to put in place an appropriate mechanism whereby the aggrieved or affected individual(s) or community(s) who believe(s) that he/she has been wronged by any act of the management or connected implementation system, is afforded a fair opportunity to redress his/her grievance.

A "Grievance/Compliant" is defined as any formal communication that expresses dissatisfaction about an action or lack of action, about the standard of service, works or policy, deficiency of service, works or policy of the project management and its implementation mechanism.

11.2 Objectives

The objectives of the Grievance Redress Mechanism are to:

- Develop an organizational framework to address and resolve the grievances of individual(s) or community(s), fairly and equitability;
- Provide enhanced level of satisfaction to the aggrieved;
- Provide easy accessibility to the aggrieved/affected individual or community for an immediate Grievance Redress;
- Ensure that the targeted communities and individuals are treated fairly at all times;
- Identify systemic flaws in the operational functions of the Project and suggest corrective measures; and
- Ensure that the operation of the project is in line with its conception and transparently to achieve the goals for sustainability of the project.

11.3 Structure of Grievance Redress Mechanism

The project shall have GRM at District Level, PIU and Project Steering Committee levels.

10.3.1 District Level GRM Arrangement

The project implementation arrangements at district level will include a DCO as Grievance Redress Officer (GRO). It is expected that most of the complaints, grievances and conflicts would be generated at the local level. This would be the most important first Grievance Redress step with a more proactive role. The complaints can be launched through complaint box, in person, via mail or email and telephone. The complaint shall be disposed off within 15 days positively. The decision reached will be reported to the complainant, and to other stakeholders. Focal person related to GRM may refer the community based issues to arbitration/reconciliation for resolution at village/community level with satisfaction to the parties.

10.3.2 Project Implementation Unit

PIU will be implementing the project. The Project Director will be the GRO to resolve the complaints at this level. He will assisted by the Grievance Redress Committee within PIU to resolve complaints and a Complaint Officer to receive the complaints. The complaints could be launched in person (through complaints box), through telephone or mail. The complete details of complainant including the name, address, telephone number, CNIC Number etc. will also be noted during the complaint registration through telephone. Complaint Officer will record the complaint. The complaint shall be disposed off within 15 days positively. The decision reached will be reported to the complainant, and to other stakeholders.

A system of recording and tracking all the complaints will be maintained by the PIU. Supportive evidence in the form of complainant signatures will be required once a decision has been communicated. The deliberations of the PIU and the evidence presented to it will be recorded in the course of handling a complaint.

Grievances related to the decisions taken by the PIU shall be forwarded to the next higher forum i.e. PSC. Any such complaint received by PSC along with the action so taken shall be shared with the Bank. In case the complaint is against the PIU by an individual or community, it will be forwarded to the PSC for redress.

10.3.3 Project Steering Committee

PSC would serve to resolve the grievances for this Project at the apex level. All the complaints, grievances and conflicts pertaining to the PIU would be resolved at this forum. This would be the final authority to resolve and address the grievances and complaints. This would be the final forum of appeal against the decisions made by the PIU. Its decision would be final and may also impose penalties and fines on the defaulting parties in accordance with rules. A matter reported to this forum will be decided in not more than one month.

11.4 Grievance Redress System and Procedure

1. Any grievance in written, verbal or digital form shall be recorded by the receiving office in its Grievances Record System which will be maintained at PIU;

2. A serial number will be assigned to it together with the date of receipt;

3. A written acknowledgement to a complainant shall be sent promptly and in any case not more than 3 working days;

4. The acknowledgement shall contain the name and designation of the officer who will deal with the grievance; information that necessary action will be taken within the specified working days from the date of receipt of the grievance by the officer concerned; name, address, email-id and phone number of the authority which the complainant could approach if the matter is not redressed within the specified timeframe or if he is not satisfied with the action taken;

5. If the office receiving the grievance/complaint is not the one designated to consider and dispose it, the receiving office shall forward it to the designated office, but after having complied with the requirements at 1 to 3 above; and

6. The office designated to consider the matter shall make every effort to ensure that grievances/appeals are considered and disposed off within the stipulated period of fifteen days.

7. If the grievance redress mechanism fails to satisfy the aggrieved affected person at all levels, he can submit the case to the appropriate court of law.

11.5 Closure of Grievance

The complaint shall be considered as disposed off and closed when:

- The designated GRO/authority has acceded to the request of the complainant fully;
- Where the complainant has indicated acceptance of the response in writing;
- Where the complainant has not responded to the Grievance Redress Officer within one month of being intimated about the final decision of the grievance officer on his grievance/complaint;
- Where the complainant fails to attend the proceedings of the Grievance Redress Officer with in the stipulated period of the disposal of the complaint; and
- Where the complainant withdraws his/her complaint.

11.6 Exclusions:

The following allegations/complaints shall not be construed or taken up for consideration and disposal as 'Grievances':

- Anonymous complaints or Frivolous cases in respect of which inadequate supporting details are provided;
- Cases involving decisions/policy matters in which the complainant has not been affected directly/indirectly;
- Cases where quasi-judicial procedures are prescribed for deciding matters or cases that are sub-judice;
- A Grievance which has already been disposed off by the higher level Grievance Cell; and
- Complaints of corruption which should be lodged and dealt with separately from this system.

CHAPTER 12: DISCLOSURE

This ESMF and the RPF will be disclosed on the website of PRMP, Government of Punjab, and on the World Bank Info Shop. Hard copies of this ESMF will also be shared with the Provincial EPA, project stakeholders, contractors, Civil Society Organizations etc. A copy of the ESMF will be placed in the Project Implementation Unit, PRMP for public access. The Urdu translation of the Executive Summary of the ESMF will also be distributed to all relevant stakeholders, especially to the communities in the project areas. The purpose will be to inform them about the project activities, negative environmental and social impacts expected from the project and proposed mitigation measures.

The executive summary of the RAP (if prepared for any sub-project) will be translated in local language *(Urdu)*, which is understandable to all project affected persons and local community and will be provided to all PAPs as well.

This information brochure will also be disclosed in local language to the PAPs and some other local key persons resided in the vicinity of the project area, so that each PAP could be able to understand the project activities, i.e. the project, cut-off date, eligibility for entitlement of compensation, methods of measurement, price assessment & valuation of losses, payment of compensation, GRM, cost & budget and monitoring & evaluation.

The Project office (PIU) and social safeguards officer will keep the PAPs informed about the impacts and entitlement of compensation and facilitate in addressing grievance (s). The ESMF study team has made an endeavor to hold consultative and scoping sessions with these stakeholders to evince their views on the proposed Project, *inter-alia,* their opinions, suggestions, understanding on various issues and concerns.

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ANNEXES

Annex 1 - Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2000

SCHEDULE I

(See Regulation 3)

List of projects requiring an IEE

A. Agriculture, Livestock and Fisheries

1. Poultry, livestock, stud and fish farms with total cost more than Rs.10 million
2. Projects involving repacking, formulation or warehousing of agricultural products

B. Energy

1. Hydroelectric power generation less than 50 MW
2. Thermal power generation less than 200 KW
3. Transmission lines less than 11 KV, and large distribution projects
4. Oil and gas transmission systems
5. Oil and gas extraction projects including exploration, production, gathering systems, separation and storage
6. Waste-to-energy generation projects

C. Manufacturing and processing

1. Ceramics and glass units with total cost more than Rs.50 million
2. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost less than Rs.100 million
3. Man-made fibers and resin projects with total cost less than Rs.100 million
4. Manufacturing of apparel, including dyeing and printing, with total cost more than Rs.25 million
5. Wood products with total cost more than Rs.25 million

D. Mining and mineral processing

1. Commercial extraction of sand, gravel, limestone, clay, Sulphur and other minerals not included in Schedule II with total cost less than Rs.100 million
2. Crushing, grinding and separation processes 9
3. Smelting plants with total cost less than Rs.50 million

E. Transport

1. Federal or Provincial highways (except maintenance, rebuilding or reconstruction of existing metaled roads) with total cost less than Rs.50 million
2. Ports and harbor development for ships less than 500 gross tons

F. Water management, dams, irrigation and flood protection

1. Dams and reservoirs with storage volume less than 50 million cubic meters of surface area less than 8 square kilometers
2. Irrigation and drainage projects serving less than 15,000 hectares
3. Small-scale irrigation systems with total cost less than Rs.50 million

E. Water supply and treatment

Water supply schemes and treatment plants with total cost less than Rs.25 million

F. Waste disposal

Waste disposal facility for domestic or industrial wastes, with annual capacity less than 10,000 cubic meters

G. Urban development and tourism

1. Housing schemes
2. Public facilities with significant off-site impacts (e.g. hospital wastes)
3. Urban development projects

H. Other projects

Any other project for which filing of an IEE is required by the Federal Agency under sub-regulation (2) of Regulation 5

SCHEDULE II

(See Regulation 4) List of projects requiring an EIA

A. Energy

1. Hydroelectric power generation over 50 MW
2. Thermal power generation over 200 MW
3. Transmission lines (11 KV and above) and grid stations
4. Nuclear power plans
5. Petroleum refineries

B. Manufacturing and processing

6. Cement plants
7. Chemicals projects
8. Fertilizer plants
9. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost of Rs.100 million and above
10. Industrial estates (including export processing zones)
11. Man-made fibers and resin projects with total cost of Rs.100 M and above
12. Pesticides (manufacture or formulation)
13. Petrochemicals complex
14. Synthetic resins, plastics and man-made fibers, paper and paperboard, paper pulping, plastic products, textiles (except apparel),printing and publishing, paints and dyes, oils and fats and vegetable ghee projects, with total cost more than Rs.10 million
15. Tanning and leather finishing projects

C. Mining and mineral processing

1. Mining and processing of coal, gold, copper, sulphur and precious stones
2. Mining and processing of major non-ferrous metals, iron and steel rolling
3. Smelting plants with total cost of Rs.50 million and above

D. Transport

1. Airports
2. Federal or Provincial highways or major roads (except maintenance, rebuilding or reconstruction of existing roads) with total cost of Rs.50 million and above
3. Ports and harbor development for ships of 500 gross tons and above
4. Railway works

E. Water management, dams, irrigation and flood protection

1. Dams and reservoirs with storage volume of 50 million cubic meters and above or surface area of 8 square kilometers and above
2. Irrigation and drainage projects serving 15,000 hectares and above
3. Water supply and treatment Water supply schemes and treatment plants with total cost of Rs.25 million and above

F. Waste Disposal

1. Waste disposal and/or storage of hazardous or toxic wastes (including landfill sites, incineration of hospital toxic waste)
2. Waste disposal facilities for domestic or industrial wastes, with annual capacity more than 10,000 cubic meters

G. Urban development and tourism

1. Land use studies and urban plans (large cities)
2. Large-scale tourism development projects with total cost more than Rs.50 million

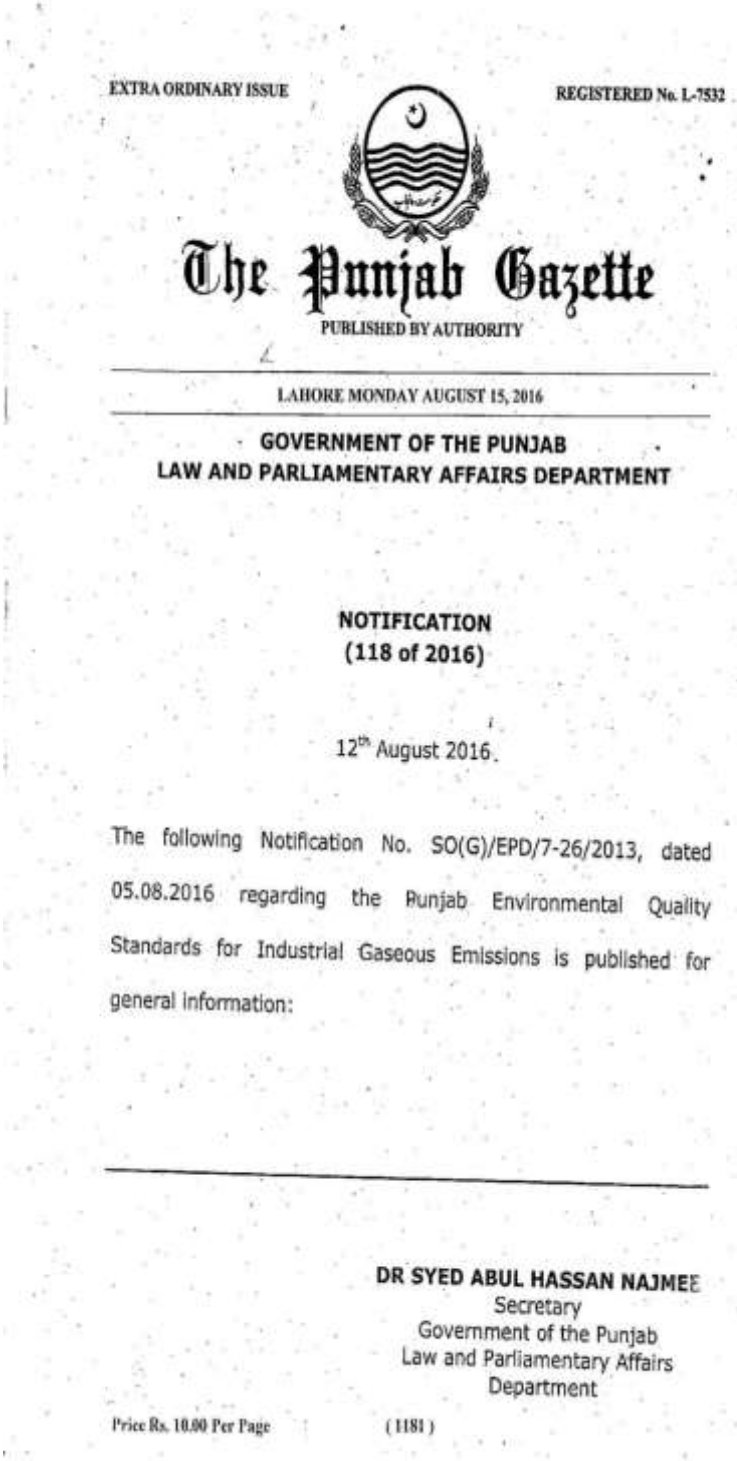
H. Environmentally Sensitive Areas

All projects situated in environmentally sensitive areas

I. Other projects

1. Any other project for which filing of an EIA is required by the Federal Agency under sub-regulation (2) of Regulation 5.
2. Any other project likely to cause an adverse environmental effect

Annex 2 – Punjab Environmental Quality Standards (PEQS), 2016



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GOVERNMENT OF THE PUNJAB
LAW AND PARLIAMENTARY AFFAIRS DEPARTMENT

NOTIFICATION
(118 of 2016)

12th August 2016.

The following Notification No. SO(G)/EPD/7-26/2013, dated 05.08.2016 regarding the Punjab Environmental Quality Standards for Industrial Gaseous Emissions is published for general information:

DR SYED ABUL HASSAN NAJMEE
Secretary
Government of the Punjab
Law and Parliamentary Affairs
Department

Price Rs. 10.00 Per Page (1181)

Government of the Punjab
Environment Protection Department

NOTIFICATION: No. SO(G)/EPD/ 7-26 /2013. – In exercise of the powers conferred under clause (c) of sub-section (1) of section 4 of the Punjab Environmental Protection Act, 1997 (XXXIV of 1997), the Environmental Protection Council has approved the following as the Punjab Environmental Quality Standards for Industrial Gaseous Emissions:

PUNJAB ENVIRONMENTAL QUALITY STANDARDS FOR INDUSTRIAL GASEOUS EMISSIONS (mg/Nm^3, UNLESS OTHERWISE DEFINED)

No.	Parameter	Source of Emission	Standard
1	2	3	4
1	Smoke	Smoke opacity not to exceed	40% or 2 Ringlemann Scale or equivalent smoke number
2	Particulate matter [1]	(a) Boilers and furnaces:	
		(i) Oil fired	300
		(ii) Coal fired	500
		(iii) Cement Kilns	300
		(b) Grinding, crushing, clinker coolers and related processes, metallurgical processes, converters, blast furnaces and cupolas.	500
3	Hydrogen Chloride (HCl)	Any	400
4	Chlorine (Cl_2)	Any	150
5	Hydrogen Fluoride (HF)	Any	150
6	Hydrogen Sulphide (H_2S)	Any	10
7	Sulphur Oxides [2&3]	Sulfuric acid / Sulfonic acid plants	5000
		Other plants except power plants operating on oil and coal	1700
8	Carbon Monoxide (CO)	Any	800

No.	Parameter	Source of Emission	Standard
9	Lead (Pb)	Any	50
10	Mercury (Hg)	Any	10
11	Cadmium (Cd)	Any	20
12	Arsenic (Ar)	Any	20
13	Copper (Cu)	Any	50
14	Antimony (Sb)	Any	20
15	Zinc (Zn)	Any	200
16	Oxides of Nitrogen	Nitric acid manufacturing unit	3000
		Other plants except power plants operating on oil or coal:	
		Gas fired	400
		Oil fired	600
		Coal fired	1200

Explanations:

1. Based on the assumption that the size of the particulate is 10 micron or more.
2. Based on 1 percent sulfur content in fuel oil. Higher content of sulfur will cause standards to be pro-rated.
3. In respect of emissions of sulfur dioxide and nitrogen oxides, the power plants operating on oil and coal as fuel shall in addition to the Punjab Environmental Quality Standards (PEQS) specified above, comply with the following standards:

A. Sulfur Dioxide

Sulfur Dioxide Background levels Microgram per cubic meter (ug/m^3) Standards				
Background Air Quality (SO_2 Basis)	Annual Average	Max. 24 hours Interval	Criterion I Max. SO_2 Emission (Tons per Day per plant)	Criterion II Max. Allowable ground level increment to ambient (ug/m^3) (One Year Average)
Unpolluted Moderately Polluted*	< 50	< 200	500	50

Sulfur Dioxide Background levels Microgram per cubic meter (ug/m^3) Standards				
Background Air Quality (SO_2 Basis)	Annual Average	Max. 24 hours Interval	Criterion I Max. SO_2 Emission (Tons per Day per plant)	Criterion II Max. Allowable ground level increment to ambient (ug/m^3) (One Year Average)
Low	50	200	500	50
High	100	400	100	10
Very Polluted**	> 100	> 400	100	10

* For intermediate values between 50 and 100 ug/m^3 linear interpolations should be used.

** No projects with Sulfur dioxide emissions will be recommended.

B. Nitrogen Oxide

Ambient air concentrations of Nitrogen Oxides, expressed as NOx should not exceed the following:

Annual Arithmetic Mean 100ug/m^3 (0.05 ppm)

Emission levels for stationary source discharges before mixing with the atmosphere, should be maintained as follows:

For fuel fired steam generators, as Nano-gram per joule (10^{-9} g/J) of heat input:

Liquid fossil fuel	130
Solid fossil fuel	300
Lignite fossil fuel	260

Note: Dilution of gaseous emissions to bring them to the NEQS limiting value is not permissible through excess air mixing blowing before emitting into the environment.

(IQBAL MOHAMMED CHAUHAN)
Secretary, Government of the Punjab
Environment Protection Department

Annex 3 – List of National and Provincial Rules and Regulations

Rules & Regulations

Substantive Laws

- Punjab Environmental Protection Act, 1997 (Amended 2012)
- Punjab Prohibition on Manufacture, Sale, Use and Import of Polythene Bags (Black or any other Polythene Bag Below Fifteen Micro Thickness) Ordinance, 2002

Rules & Regulations

- Punjab Environmental Protection Council (Procedure) Rules, 2016
- Punjab Environmental Quality Standards for Municipal And Liquid Industrial Effluents
- Punjab Environmental Quality Standards for Drinking Water
- Punjab Environmental Quality Standards For Motor Vehicle Exhaust and Noise
- Punjab Environmental Quality Standards for Ambient Air
- Punjab Environmental Quality Standards for Noise
- Punjab Environmental Quality Standards for Treatment of Liquid and Disposal of Bio-medical Waste
- Punjab Environmental Quality Standards For Industrial Gaseous Emissions
- Environmental Tribunal Rules, 1999
- Review of IEE & EIA Regulations, 2000
- Certification of Environmental Laboratories Regulations, 2000
- Provincial Sustainable Development Fund Board (Procedure) Rules, 2001
- Environmental Samples Rules, 2001
- NEQS SMART Rules, 2001
- Pollution Charge Rules, 2001
- Provincial Sustainable Development Fund (Utilization) Rules, 2003
- The Punjab Polythene Bag Rules, 2004
- Hospital Waste Management Rules, 2005
- Biosafety Rules, 2005
- Environmental Tribunal Rules, 2012
- Punjab Environmental Protection Base Transceiver Station (BTS) Regulations, 2012
- Punjab Environmental Protection Motor Vehicles Rules, 2013
- Punjab Environmental Protection Administrative Penalty Rules, 2013
- Punjab Bio-safety Rules, 2014
- Punjab Hospital Waste Management Rules, 2014

Annex 4 – World Bank Environmental Code of Practices

Introduction

The objective of preparation of the Environmental Code of Practices (ECP) is to address less significant environmental impacts and all general construction related impacts of the proposed project implementation. The ECPs will provide guidelines for best operating practices and environmental management guidelines to be followed by the contractors for sustainable management of all environmental issues.

- ECP 1: Waste Management
- ECP 2: Fuels and Hazardous Substances Management
- ECP 3: Water Resources Management
- ECP 4: Drainage Management
- ECP 5: Soil Quality Management
- ECP 6: Erosion and Sediment Control
- ECP 7: Borrow Areas Development & Operation
- ECP 8: Air Quality Management
- ECP 9: Noise and Vibration Management
- ECP 10: Protection of Flora
- ECP 11: Protection of Fauna
- ECP 12: Protection of Fisheries
- ECP 13: Road Transport and Road Traffic Management
- ECP 14: Construction Camp Management
- ECP 15: Cultural and Religious Issues
- ECP 16: Workers Health and Safety

The Contractor can also prepare a 'Construction Environmental Action Plan' (CEAP) demonstrating the manner in which the Contractor will comply with the requirements of ECPs and the mitigation measures proposed in the ESMMP of the ESA Report. The CEAP will form the part of the contract documents and will be used as monitoring tool for compliance. Violation of the compliance requirements will be treated as non-compliance leading to the corrections or otherwise imposing penalty on the contractors.

ECP 1: Waste Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
General Waste	Soil and water pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor shall: - Develop waste management plan for various specific waste streams (e.g., reusable waste, flammable waste, construction debris, food waste etc.) prior to commencing of construction and submit to WAPDA for approval. - Organize disposal of all wastes generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of disposal site, so as to cause less environmental impact. - Minimize the production of waste materials by 3R (Reduce, Recycle and Reuse) approach. - Segregate and reuse or recycle all the wastes, wherever practical. - Collect and transport non-hazardous wastes to all the approved disposal sites. - Train and instruct all personnel in waste management practices and procedures as a component of the environmental induction process. - Provide refuse containers at each worksite. - Request suppliers to minimize packaging where practicable. - Place a high emphasis on good housekeeping practices. - Maintain all construction sites in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary storage of all wastes before transportation and final disposal.
Hazardous Waste	Health hazards and environmental impacts due to improper waste management practices	The Contractor shall: - Collect chemical wastes in 200 liter drums (or similar sealed container), appropriately labeled for safe transport to an approved chemical waste depot. - Store, transport and handle all chemicals avoiding potential environmental pollution. - Store all hazardous wastes appropriately in bunded areas away from water courses. - Make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. - Collect hydrocarbon wastes, including lube oils, for safe transport off-site for reuse, recycling, treatment or disposal at approved locations. - Construct concrete or other impermeable flooring to prevent seepage in case of spills

ECP 2: Fuels and Hazardous Substance Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Fuels and hazardous goods.	Materials used in construction have a potential to be a source of contamination. Improper storage and handling of fuels, lubricants, chemicals and hazardous goods/materials on-site, and potential spills from these goods may harm the environment or health of construction workers.	The Contractor shall: - Prepare spill control procedures and submit the plan for WAPDA approval. - Train the relevant construction personnel in handling of fuels and spill control procedures. - Store dangerous goods in bunded areas on a top of a sealed plastic sheet away from watercourses. - Refueling should occur only within bunded areas. - Make available MSDS for chemicals and dangerous goods on-site. - Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site approved by EPA. - Provide absorbent and containment material (e.g., absorbent matting) where hazardous material are used and stored and personnel trained in the correct use. - Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use. - Make sure all containers, drums, and tanks that are used for storage are in good condition and are labeled with expiry date. Any container, drum, or tank that is dented, cracked, or rusted might eventually leak. Check for leakage regularly to identify potential problems before they occur. - Store hazardous materials above flood plain level. - Put containers and drums in temporary storages in clearly marked areas, where they will not be run over by vehicles or heavy machinery. The area should preferably slope or drain to a safe collection area in the event of a spill. - Put containers and drums in permanent storage areas on an impermeable floor that slopes to a safe collection area in the event of a spill or leak. - Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution. - Avoid the use of material with greater potential for contamination by substituting them with more environmentally friendly materials.

ECP 3: Water Resources Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Hazardous Material and Waste	Water pollution from the storage, handling and disposal of hazardous materials and general construction waste, and accidental spillage	The Contractor shall: - Follow the management guidelines proposed in ECPs 1 and 2. - Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables
Discharge from construction sites	During construction both surface and groundwater quality may be deteriorated due to construction activities in the river, sewerages from construction sites and work camps. The construction works will modify groundcover and topography changing the surface water drainage patterns, including infiltration and storage of storm water. The change in hydrological regime leads to increased rate of runoff and in sediment and contaminant loading, increased flooding, groundwater contamination, and effect habitat of fish and other aquatic biology.	The Contractor shall: - Install temporary drainage works (channels and bunds) in areas required for sediment and erosion control and around storage areas for construction materials - Install temporary sediment basins, where appropriate, to capture sediment-laden run-off from site - Divert runoff from undisturbed areas around the construction site - Stockpile materials away from drainage lines - Prevent all solid and liquid wastes entering waterways by collecting solid waste, oils, chemicals, bitumen spray waste and wastewaters from brick, concrete and asphalt cutting where possible and transport to a approved waste disposal site or recycling depot - Wash out ready-mix concrete agitators and concrete handling equipment at washing facilities off site or into approved bunded areas on site. Ensure that tires of construction vehicles are cleaned in the washing bay (constructed at the entrance of the construction site) to remove the mud from the wheels. This should be done in every exit of each construction vehicle to ensure the local roads are kept clean.
Soil Erosion and siltation	Soil erosion and dust from the material stockpiles will increase the sediment and contaminant loading of surface water bodies.	The Contractor shall: - Stabilize the cleared areas not used for construction activities with vegetation or appropriate surface water treatments as soon as practicable following earthwork to minimize erosion - Ensure that roads used by construction vehicles are swept regularly to remove sediment.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		- Water the material stockpiles, access roads and bare soils on an as required basis to minimize dust. Increase the watering frequency during periods of high risk (e.g. high winds)
Construction activities in water bodies	Construction works in the water bodies will increase sediment and contaminant loading, and effect habitat of fish and other aquatic biology.	The Contractor shall: - Dewater sites by pumping water to a sediment basin prior to release off site – do not pump directly off site - Monitor the water quality in the runoff from the site or areas affected by dredge plumes, and improve work practices as necessary - Protect water bodies from sediment loads by silt screen or bubble curtains or other barriers - Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables. - Use environment friendly and non toxic slurry during construction of piles to discharge into the river. - Reduce infiltration of contaminated drainage through storm water management design - Do not discharge cement and water curing used for cement concrete directly into water courses and drainage inlets.
Drinking water	Groundwater at shallow depths might be contaminated and hence not suitable for drinking purposes.	The Contractor shall: - Control the quality of groundwater to be used for drinking water on the bases of NEQS and World Bank standards for drinking water. Safe and sustainable discharges are to be ascertained prior to selection of pumps. - Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination - All tube wells, test holes, monitoring wells that are no longer in use or needed shall be properly decommissioned
	Depletion and pollution of groundwater resources	- Install monitoring wells both upstream and downstream areas near construction yards and construction camps to regularly monitor and report on the water quality and water levels. - Protect groundwater supplies of adjacent lands

ECP 4: Drainage Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Excavation and earth works, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall: - Prepare a program for prevent/avoid standing waters, which EMSU will verify in advance and confirm during implementation - Provide alternative drainage for rainwater if the construction works/earth-fillings cut the established drainage line - Establish local drainage line with appropriate silt collector and silt screen for rainwater or wastewater connecting to the existing established drainage lines already there. - Rehabilitate road drainage structures immediately if damaged by contractors' road transports. - Build new drainage lines as appropriate and required for wastewater from construction yards connecting to the available nearby recipient water bodies. Ensure wastewater quality conforms to the relevant standards provided by EPA, before it being discharged into recipient water bodies. - Ensure the internal roads/hard surfaces in the construction yards/construction camps that generate has storm water drainage to accommodate high runoff during downpour and that there is no stagnant water in the area at the end of the downpour. - Construct wide drains instead of deep drains to avoid sand deposition in the drains that require frequent cleaning. - Provide appropriate silt collector and silt screen at the inlet and manholes and periodically clean the drainage system to avoid drainage congestion - Protect natural slopes of drainage channels to ensure adequate storm water drains. - Regularly inspect and maintain all drainage channels to assess and alleviate any drainage congestion problem. - Reduce infiltration of contaminated drainage through storm water management design
Ponding of water	Health hazards due to mosquito breeding	- Do not allow ponding of water especially near the waste storage areas and construction camps - Discard all the storage containers that are capable of storing of water, after use or store them in inverted position

ECP 5: Soil Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Storage of hazardous and toxic chemicals	Spillage of hazardous and toxic chemicals will contaminate the soils	The Contractor shall: - Strictly manage the wastes management plans proposed in ECP1 and storage of materials in ECP2 - Construct appropriate spill contaminant facilities for all fuel storage areas - Establish and maintain a hazardous materials register detailing the location and quantities of hazardous substances including the storage, use of disposals - Train personnel and implement safe work practices for minimizing the risk of spillage - Identify the cause of contamination, if it is reported, and contain the area of contamination. The impact may be contained by isolating the source or implementing controls around the affected site - Remediate the contaminated land using the most appropriate available method to achieve required commercial/industrial guideline validation results
Construction material stock piles	Erosion from construction material stockpiles may contaminate the soils	The Contractor shall: - Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds

ECP 6: Erosion and Sediment Control

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Clearing of construction sites	Cleared areas and slopes are susceptible for erosion of top soils that affects the growth of vegetation which causes ecological imbalance.	The Contractor shall: - Reinstate and protect cleared areas as soon as possible. - Mulch to protect batter slopes before planting - Cover unused area of disturbed or exposed surfaces immediately with mulch/grass turfings/tree plantations
Construction activities and material stockpiles	The impact of soil erosion are: (i) Increased run off and sedimentation causing a greater flood hazard to the downstream, (ii) destruction of aquatic environment in nearby lakes, streams, and reservoirs caused by erosion and/or deposition of sediment damaging the spawning grounds of fish, and (iii) destruction of vegetation by burying or gullying.	The Contractor shall: - Locate stockpiles away from drainage lines - Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds - Remove debris from drainage paths and sediment control structures - Cover the loose sediments and water them if required - Divert natural runoff around construction areas prior to any site disturbance - Install protective measures on site prior to construction, for example, sediment traps - Control drainage through a site in protected channels or slope drains - Install 'cut off drains' on large cut/fill batter slopes to control water runoff speed and hence erosion - Observe the performance of drainage structures and erosion controls during rain and modify as required.

ECP 7: Borrow Areas Development & Operation

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Development and operation of borrow areas	In case, the borrow pits developed by the Contractor, there will be impacts on local topography, landscaping and natural drainage.	The Contractor shall: - Reuse excavated or disposed material available in the project area to the maximum extent possible - Identify borrow pits in consultation with the local governments and WAPDA. - Obtain the borrow material from: - barren land or land without tree cover outside the road reserve; - Do not dug the borrow pits within 5m of the toe of the final section of the road embankment. - Dig the borrow pits continuously. Ridges of not less than 8 m widths shall be left at intervals not exceeding 300 m and small drains should be cut through the ridges to facilitate drainage - Slope the bed level of the borrow pits, as far as possible, down progressively towards the nearest cross drain, if any, and do not lower it than the bed of the cross-drain, to ensure efficient drainage. Follow the below for restoration of borrow areas are: - Return stockpiled topsoil to the borrow pit if is used for agriculture; - return stockpiled topsoil to the borrow pit and all worked areas to be stabilized through re-vegetation using local plants. - Control at each site by ensuring that base of the borrow pit drains into a sediment trap prior to discharging from the site.

ECP 8: Air Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Air quality can be adversely affected by vehicle exhaust emissions and combustion of fuels.	The Contractor shall: - Fit vehicles with appropriate exhaust systems and emission control devices, in compliance with the NEQS. Maintain these devices in good working condition. - Operate the vehicles in a fuel efficient manner - Cover haul vehicles carrying dusty materials moving outside the construction site - Impose speed limits on all vehicle movement at the worksite to reduce dust emissions - Control the movement of construction traffic - Water construction materials prior to loading and transport - Service all vehicles regularly to minimize emissions - Limit the idling time of vehicles not more than 2 minutes
Construction machinery	Air quality can be adversely affected by emissions from machinery and combustion of fuels.	The Contractor shall: - Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition. - Focus special attention on containing the emissions from generators - Machinery causing excess pollution (e.g. visible smoke) will be banned from construction sites - Service all equipment regularly to minimize emissions
Construction activities	Dust generation from construction sites, material stockpiles and access roads is a nuisance in the environment and can be a health hazard.	- Water the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. high winds) - Minimize the extent and period of exposure of the bare surfaces - Reschedule earthwork activities or vegetation clearing activities, where practical, if necessary to avoid during periods of high wind and if visible dust is blowing off-site - Restore disturbed areas as soon as practicable by vegetation/grass-turfing - Store the cement in silos and minimize the emissions from silos by equipping them with filters.

ECP 9: Noise and Vibration Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall: - Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures - Make sure all drivers will comply with the traffic codes concerning maximum speed limit, driving hours, etc.
Construction machinery	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall: - Appropriately site all noise generating activities to avoid noise pollution to local residents - Use the quietest available plant and equipment - Modify equipment to reduce noise (for example, noise control kits, lining of truck trays or pipelines) - Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures - Install acoustic enclosures around generators to reduce noise levels. - Fit high efficiency mufflers to appropriate construction equipment
Construction activity	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall: - Notify adjacent residents prior to any typical noise event outside of daylight hours - Educate the operators of construction equipment on potential noise problems and the techniques to minimize noise emissions - Employ best available work practices on-site to minimize occupational noise levels - Install temporary noise control barriers where appropriate - Notify affected people if noisy activities will be undertaken, e.g. blasting - Plan activities on site and deliveries to and from site to minimize impact - Monitor and analyze noise and vibration results and adjust construction practices as required. - Avoid undertaking the noisiest activities, where possible, when working at night near the residential areas

ECP 10: Protection of Flora

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Local flora are important to provide shelters for the birds, offer fruits and/or timber/fire wood, protect soil erosion and overall keep the environment very friendly to human-living. As such damage to flora has wide range of adverse environmental impacts.	The Contractor shall: - Reduce disturbance to surrounding vegetation - Use appropriate type and minimum size of machine to avoid disturbance to adjacent vegetations. - Get approval from supervision consultant for clearance of vegetation. - Make selective and careful pruning of trees where possible to reduce need of tree removal. - Control noxious weeds by disposing of at designated dump site or burn on site. - Clear only the vegetation that needs to be cleared in accordance with the plans. These measures are applicable to both the construction areas as well as to any associated activities such as sites for stockpiles, disposal of fill and construction of diversion roads, etc. - Do not burn off cleared vegetation – where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping. Mulch provides a seed source, can limit embankment erosion, retains soil moisture and nutrients, and encourages re-growth and protection from weeds. - Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. - Avoid work within the drip-line of trees to prevent damage to the tree roots and compacting the soil. - Minimize the length of time the ground is exposed or excavation left open by clearing and re-vegetate the area at the earliest practically possible. - Ensure excavation works occur progressively and re-vegetation done at the earliest - Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction - Supply appropriate fuel in the work caps to prevent fuel wood collection

ECP 11: Protection of Fauna

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities	The location of construction activities can result in the loss of wild life habitat and habitat quality,	The Contractor shall: - Limit the construction works within the designated sites allocated to the contractors - check the site for animals trapped in, or in danger from site works and use a qualified person to relocate the animal
	Impact on migratory birds, its habitat and its active nests	The Contractor shall: - Not be permitted to destruct active nests or eggs of migratory birds - Minimize the tree removal during the bird breeding season. If works must be continued during the bird breeding season, a nest survey will be conducted by a qualified biologist prior to commence of works to identify and located active nests - Minimize the release of oil, oil wastes or any other substances harmful to migratory birds to any waters or any areas frequented by migratory birds.
Vegetation clearance	Clearance of vegetation may impact shelter, feeding and/or breeding and/or physical destruction and severing of habitat areas	The Contractor shall: - Restrict the tree removal to the minimum required. - Retain tree hollows on site, or relocate hollows, where appropriate - Leave dead trees where possible as habitat for fauna - Fell the hollow bearing trees in a manner which reduces the potential for fauna mortality. Felled trees will be inspected after felling for fauna and if identified and readily accessible will be removed and relocated or rendered assistance if injured. After felling, hollow bearing trees will remain unmoved overnight to allow animals to move of their own volition.
Construction camps	Illegal poaching	- Provide adequate knowledge to the workers regarding protection of flora and fauna, and relevant government regulations and punishments for illegal poaching.

ECP 12: Protection of Fisheries

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities in River	The main potential impacts to fisheries are hydrocarbon spills and leaks from boats and disposal of wastes into the river	The Contractor shall: - Ensure that boats used in the project are well maintained and do not have oil leakage to contaminate river water. - Contain accidental spillage and make an emergency oil spill containment plan to be supported with enough equipments, materials and human resources - Do not dump wastes, be it hazardous or non-hazardous into the nearby water bodies or in the river
Construction activities on the land	The main potential impacts to aquatic flora and fauna River are increased suspended solids from earthworks erosion, sanitary discharge from work camps, and hydrocarbon spills	The Contractor shall: - follow mitigation measures proposed in ECP 3 : Water Resources Management and EC4: Drainage Management

ECP 13: Road Transport and Road Traffic Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Increased traffic use of road by construction vehicles will affect the movement of normal road traffics and the safety of the road-users.	The Contractor shall: - Prepare and submit a traffic management plan to WAPDA for their approval at least 30 days before commencing work on any project component involved in traffic diversion and management. - Include in the traffic management plan to ensure uninterrupted traffic movement during construction: detailed drawings of traffic arrangements showing all detours, temporary road, temporary diversions, necessary barricades, warning signs/lights, road signs, etc. - Provide signs at strategic locations of the roads complying with the schedules of signs contained in the Pakistani Traffic Regulations. - Install and maintain a display board at each important road intersection on the roads to be used during construction, which shall clearly show the following information in Urdu: - Location: chainage and village name - Duration of construction period - Period of proposed detour/alternative route - Suggested detour route map - Name and contact address/telephone number of the concerned personnel - Name and contact address/telephone number of the Contractor - Inconvenience is sincerely regretted.
	Accidents and spillage of fuels and chemicals	- Restrict truck deliveries, where practicable, to day time working hours. - Restrict the transport of oversize loads. - Operate road traffics/transport vehicles, if possible, to non-peak periods to minimize traffic disruptions. - Enforce on-site speed limit

ECP 14: Construction Camp Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Siting and Location of construction camps	Campsites for construction workers are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.	The Contractor shall: - Locate the construction camps at areas which are acceptable from environmental, cultural or social point of view. - Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. - Submit to the PMU for approval a detailed layout plan for the development of the construction camp showing the relative locations of all temporary buildings and facilities that are to be constructed together with the location of site roads, fuel storage areas (for use in power supply generators), solid waste management and dumping locations, and drainage facilities, prior to the development of the construction camps. - Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters
Construction Camp Facilities	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	Contractor shall provide the following facilities in the campsites: - Adequate housing for all workers - Safe and reliable water supply. Water supply from tube wells that meets the national standards - Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. Provide separate latrines and bathing places for males and females with total isolation by wall or by location. Female toilets should be clearly marked in language understood by the persons using them to avoid miscommunication. The minimum number of toilet facilities required is one toilet for every ten persons. - Treatment facilities for sewerage of toilet and domestic wastes - Storm water drainage facilities. Both sides of roads are to be provided with shallow v drains to drain off storm water to a silt retention pond which shall be sized to provide a minimum of 20 minutes retention of storm water flow from the

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		whole site. Channel all discharge from the silt retention pond to natural drainage via a grassed swale at least 20 meters in length with suitable longitudinal gradient. - Paved internal roads. Ensure with grass/vegetation coverage to be made of the use of top soil that there is no dust generation from the loose/exposed sandy surface. Pave the internal roads of at least haring-bond bricks to suppress dusts and to work against possible muddy surface during monsoon. - Provide child crèches for women working on the construction site. The crèche should have facilities for dormitory, kitchen, indoor/outdoor play area. Schools should be attached to these crèches so that children are not deprived of education whose mothers are construction workers - Provide in-house community/common entertainment facilities. Dependence of local entertainment outlets by construction camps to be discouraged/prohibited to the extent possible.
Disposal of waste	Management of wastes is crucial to minimize impacts on the environment	The Contractor shall: - Ensure proper collection and disposal of solid wastes within the construction camps - Insist waste separation by source; organic wastes in one pot and inorganic wastes in another pot at household level. - Store inorganic wastes in a safe place within the household and clear organic wastes on daily basis to waste collector. Establish waste collection, transportation and disposal systems with the manpower and equipments/vehicles needed. - Dispose organic wastes in a designated safe place on daily basis. At the end of the day cover the organic wastes with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, are not attracted. One may dig a large hole to put organic wastes in it; take care to protect groundwater from contamination by leachate formed due to decomposition. Cover the bed of the pit with impervious layer of materials (clayey, thin concrete) to protect groundwater from contamination. - Locate the garbage pit/waste disposal site min 500 m away from the residence so that peoples are not disturbed with the odor likely to be produced from anaerobic decomposition of wastes at the waste dumping places. Encompass

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		the waste dumping place by fencing and tree plantation to prevent children to enter and play with. - Do not establish site specific landfill sites. All solid waste will be collected and removed from the work camps and disposed in approval waste disposal sites.
Fuel supplies for cooking purposes	Illegal sourcing of fuel wood by construction workers will impact the natural flora and fauna	The Contractor shall: - Provide fuel to the construction camps for their domestic purpose, in order to discourage them to use fuel wood or other biomass. - Make available alternative fuels like natural gas or kerosene on ration to the workforce to prevent them using biomass for cooking. - Conduct awareness campaigns to educate workers on preserving the protecting of biodiversity in the project area, and relevant government regulations and punishments on wildlife protection.
Health and Hygiene	There will be a potential for diseases to be transmitted including malaria, exacerbated by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted infections and HIV/AIDS.	The Contractor shall: - Provide adequate health care facilities within construction sites. - Provide first aid facility round the clock. Maintain stock of medicines in the facility and appoint fulltime designated first aider or nurse. - Provide ambulance facility for the laborers during emergency to be transported to nearest hospitals. - Initial health screening of the laborers coming from outside areas - Train all construction workers in basic sanitation and health care issues and safety matters, and on the specific hazards of their work - Provide HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on regular basis - Complement educational interventions with easy access to condoms at campsites as well as voluntary 154counseling and testing - Provide adequate drainage facilities throughout camps to ensure that disease vectors habitats (stagnant water bodies, puddles) do not form. Regular mosquito repellant sprays in monsoon. - Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers. Place display boards at strategic locations within the camps containing messages on best hygienic practices

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Safety	In adequate safety facilities to the construction camps may create security problems and fire hazards	The Contractor shall: - Provide appropriate security personnel (police / home guard or private security guards) and enclosures to prevent unauthorized entry in to the camp area. - Maintain register to keep track on a head count of persons present in the camp at any given time. - Encourage use of flameproof material for the construction of labor housing/site office. Ensure that these houses/rooms are of sound construction and capable of withstanding storms/cyclones. - Provide appropriate type of firefighting equipments suitable for the construction camps - Display emergency contact numbers clearly and prominently at strategic places in camps. - Communicate the roles and responsibilities of laborers in case of emergency in the monthly meetings with contractors.
Site Restoration	Restoration of the construction camps to original condition requires demolition of construction camps.	The Contractor shall: - Dismantle and remove from the site all facilities established within the construction camp including the perimeter fence and lockable gates at the completion of the construction work. - Dismantle camps in phases as the work decreases (do not wait for completion of the entire work. - Give prior notice to the laborers before demolishing their camps/units - Maintain the noise levels within the national standards during demolition activities - Different contractors should be hired to demolish different structures to promote recycling or reuse of demolished material. - Reuse the demolition debris to a maximum extent. - Handover the construction camps with all built facilities as it is if agreement between both parties (contactor and land-owner) has been made so. - Restore the site to its original condition or to an agreed condition with the landowner defined prior to the commencement of the works (in writing). - Not make false promises to the laborers for future employment in O&M of the project.

ECP 15: Cultural and Religious Issues

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities near religious and cultural sites	Disturbance from construction works to the cultural and religious sites, and contractors lack of knowledge on cultural issues cause social disturbances.	The Contractor shall: - Communicate to the public through community consultation and newspaper announcements regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restriction. - Do not block access to cultural and religious sites, wherever possible - Restrict all construction activities within the foot prints of the construction sites. - Stop construction works that produce noise (particularly during prayer time) should there be any mosque/religious/educational institutions close to the construction sites and users make objections. - Take special care and use appropriate equipment when working next to a cultural/religious institution. - Stop work immediately and notify the site manager if, during construction, an archaeological or burial site is discovered. It is an offence to recommence work in the vicinity of the site until approval to continue is given by the PMU - Provide separate prayer facilities to the construction workers. - Show appropriate behavior with all construction workers especially women and elderly people - Allow the workers to participate in praying during construction time - Resolve cultural issues in consultation with local leaders and supervision consultants - Establish a mechanism that allows local people to raise grievances arising from the construction process. - Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters

ECP 16: Worker Health and Safety

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Best practices	Construction works may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, waste water, vector transmitted diseases etc), (ii) risk factors resulting from human behavior (e.g. STD, HIV etc) and (iii) road accidents from construction traffic.	The Contractor shall: - Implement suitable safety standards for all workers and site visitors which should not be less than those laid down on the international standards (e.g. International Labor Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guidelines') and contractor's own national standards or statutory regulations, in addition to complying with the national acts and rules of the Government of Pakistan - Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of hazards in the work areas, - Provide personal protection equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. - Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job - Appoint an environment, health and safety manager to look after the health and safety of the workers - Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters
	Child and pregnant labor	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, in accordance with the Pakistani Labor Laws and Employment of Child Act (1977).
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	- Provide health care facilities and first aid facilities are readily available. Appropriately equipped first-aid stations should be easily accessible throughout the place of work - Document and report occupational accidents, diseases, and incidents.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		- Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice. - Identify potential hazards to workers, particularly those that may be life-threatening and provide necessary preventive and protective measures. - Provide awareness to the construction drivers to strictly follow the driving rules - Provide adequate lighting in the construction area and along the roads
Construction Camps	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ECP 14 Construction Camp Management: - Adequate ventilation facilities - Safe and reliable water supply. Water supply from deep tube wells that meets the national standards - Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. - Treatment facilities for sewerage of toilet and domestic wastes - Storm water drainage facilities. - Recreational and social facilities - Safe storage facilities for petroleum and other chemicals in accordance with ECP 2 - Solid waste collection and disposal system in accordance with ECP1. - Arrangement for trainings - Paved internal roads. - Security fence at least two m height. - Sick bay and first aid facilities
Water and sanitation facilities at the construction sites	Lack of Water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	- The contractor shall provide portable toilets at the construction sites, if about 25 people are working the whole day for a month. Location of portable facilities should be at least six m away from storm drain system and surface waters. These portable toilets should be cleaned once a day and all the sewerage should be pumped from the collection tank once a day and should be brought to the common septic tank for further treatment.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		- Contractor should provide bottled drinking water facilities to the construction workers at all the construction sites.
Other ECPs	Potential risks on health and hygiene of construction workers and general public	The Contractor shall follow the following ECPs to reduce health risks to the construction workers and nearby community: - ECP 2: Fuels and Hazardous Goods Management - ECP 4: Drainage Management - ECP 8: Air Quality Management - ECP 9: Noise and Vibration Management - ECP 13: Road Transport and Road Traffic Management
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall: - Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI) HIV/AIDS. - Train all construction workers in general health and safety matters, and on the specific hazards of their work Training should consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. - Commence the malaria, HIV/AIDS and STI education campaign before the start of the construction phase and complement it with by a strong condom marketing, increased access to condoms in the area as well as to voluntary counseling and testing. - Implement malaria, HIV/AIDS and STI education campaign targeting all workers hired, international and national, female and male, skilled, semi- and unskilled occupations, at the time of recruitment and thereafter pursued throughout the construction phase on ongoing and regular basis. This should be complemented by easy access to condoms at the workplace as well as to voluntary counseling and testing.

Annex 5 – Guidelines Asbestos and Asbestos Based Product use in Construction

Asbestos and Asbestos Based Products:

Asbestos is a group of naturally occurring fibrous silicate minerals. It was used widely in the production of many industrial and household products because of its useful properties, including fire retardation, electrical and thermal insulation, chemical and thermal stability, and high tensile strength[4].

Asbestos based products include Asbestos –Cement (A-C) construction materials such as A-C flat and corrugated sheets, A-C pipe, and A-C water storage tanks. Over 90% of the asbestos fiber produced today is chrysotile which is found in these products. Vehicle brake, clutch pads, roofing and gaskets are some other products that are still being manufactured with asbestos content. Due to international laws banning the use of asbestos, it is hardly used in construction materials other than asbestos –cement products. However, it is still found in older buildings in the form of friable surfacing materials, thermal system insulations, non-friable flooring materials, and other applications.

In Sri Lanka, asbestos roofing sheets are widely used as it is the most cost effective and durable material given climate, environment and other factors. Other alternatives to asbestos roofing sheets in Sri Lanka are clay tile , zinc-aluminum, cadjan (matted coconut/Palmyra/palm leaves) and concrete. These alternatives have disadvantages such as:

- Clay tiles are easy to remove, and in areas where there are monkeys it poses a practical problem. Monkeys tend to travel over roofs and either deliberately or accidentally break tiles, thus expenses for replacing is high.

- Zinc-Aluminum – While durable and long lasting, given the tropical climate and monsoon rains, such roofing heats up during the day and during rainy periods the noise makes it impractical especially to use in classrooms.

- Cement – due to the climate in Sri Lanka if not properly treated can result in leaks and damage to the structure. Furthermore, in high temperatures the heat absorption is high thus increasing the temperature in the buildings. In classrooms, it would make it difficult for students and teachers to work. Furthermore, concrete roofs are costly, and will not be affordable, given the large number of school infrastructure requirements that will need to be met through the project.

- Cadjan roofs while environmentally friendly, need to be replaced frequently, causes leaks and will not be acceptable on school buildings.

Ban on Asbestos Use:

As health risks related to exposure to asbestos is widely known, many countries have banned the commercial use of asbestos. The International Labor Organization (ILO) established an Asbestos Convention (C162) in 1986 to promote national laws and regulations for the “prevention and control

of, and protection of workers against, health hazards due to occupational exposure to asbestos". As of March 4, 2008, 31 countries had ratified the Convention, 17 of them have banned asbestos use.

ILO asbestos convention requirements include:

- Work clothing to be provided by employers,
- Double changing rooms and wash facilities to prevent dust from going home on street clothes, Training of workers about the health hazards to themselves and their families,
- Periodic medical examinations of workers,
- Periodic air monitoring of the work environment, with records retained for 30 years,
- Development of a work plan for demolition work, to protect workers and provide for proper waste disposal, and
- Protection from retaliatory and disciplinary measures of workers who remove themselves from work that they are justified in believing presents a serious danger to health.

Health Risks:

Health hazards from breathing asbestos dust include:

- Asbestosis – a lung scarring disease
- Form of cancer such as mesothelioma.

The main risks of exposure from asbestos is where fibers are easily made air borne under little pressure, such as cutting of A-C products that can release fibers. Risks are from construction materials that need to be altered, repaired and disposed of that may release particles into the air, and increase the risk of inhalation. Renovations, repairs and decommission of buildings containing A-C products such as roof sheets can pose a risk. However, in the case of Asbestos –Cement (AC) corrugated sheets, the fiber is present in the non- friable form which means that fiber is embedded in cement and cannot be easily air-borne. Such materials are known to have little health risk once (a) the roof has been completed and (b) given that material is in good condition and not disturbed[8]. Although IDA Group's Good Practice Note on Asbestos , and its Health and Safety Guidelines do not encourage the use of asbestos products in construction, in light of the practical uses for construction of school infrastructure, the costs, its availability in local markets and lack of feasible alternatives, the use of asbestos is the most feasible option. However, to minimize the health risks that asbestos products do pose, the following guidelines adapted from the World Bank's Health and Safety Guidelines and other sources are recommended to be followed. As Sri Lanka has no regulations regarding the use of Asbestos, the use of ILO convention guidelines as stated above are recommended as well.

Construction phase:

- To minimize the risk of damage of A-C sheets for roofing, transportation of material must be done with care. Where possible, sheets should be transported in airtight containers or with dust covers.
- During installation of sheets, ensure that damage is minimized. Use of power tools to drill holes that may release particles needs to be kept to the minimum.

- Use a protective sheet (i.e. insulation foil) between the A-C sheets and the classrooms to reduce the risk of minute particles entering the rooms.

- Workers who are involved in handling and installing A-C sheets should take precautions to minimize exposure by wearing protective masks and showering to minimize spread of dust. Work clothes used during the installation of sheets should be washed and workers change to clean clothes before leaving construction site.

- Workers should be made aware of the risks of A-C sheets, and how to minimize these risks.

De-Commissioning:

- Contractors should dispose of waste containing asbestos in a manner that does not pose a health risk to the workers concerned or the population in the vicinity. Disposal at approved landfills and prompt burial under various levels of material apply to friable asbestos waste. Contractors should consult the Local Authority and Central Environmental Authority to obtain guidance on proper disposal of material.
- Contractor should be encouraged to develop an asbestos management plan that identifies the content (whether it is in friable form and has potential to release fibers), and proper removal procedures.
- During the removal of A-C sheets, workers should wear proper protective gear such as masks and shower to prevent the spread of dust. Clothes worn during this process should be washed and workers should change into clean clothes prior to leaving construction site.
- Workers who are, or have been, exposed to asbestos in their occupational activities should be provided, in accordance with national laws and practices, with such medical examinations as are necessary to supervise their health in relation to the occupational hazard, and to diagnose occupational diseases caused by exposure to asbestos. For the prevention of disease and functional impairment related to exposure to asbestos, all workers assigned to work involving asbestos exposure should be provided with:
    - a pre-assignment medical examination;
    - periodic medical examinations at appropriate intervals (at least every 3 years);
    - other tests and investigations, in particular chest radiographs and lung function test, which may be necessary to supervise their state of health in relation to the occupational hazard and to identify early indicators of disease caused by asbestos;
    - a copy of their medical record.

The above requirements will be based on the type of construction and its magnitude.

Annex 6 – Sub-project Category Classification

Subproject Category Classification System

Category	Description	Requirement
A	Proposed subproject is classified significant adverse social and/or environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.	Full ESIA Category A subproject examines the project's potential negative and positive environmental and social impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance.
B	Proposed subproject is classified as Category B, if it's potential adverse social impacts on human populations or environmentally important areas— including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category A projects.	Narrower scope of ESIA for a Category B subproject than that of ESIA for Category A. But, like ESIA for Category A, it examines the subproject's potential negative and positive environmental and social impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance.
C	Proposed subproject is classified as Category C if it is likely to have minimal or no adverse social and/or environmental impacts.	Beyond screening, no further ESIA action is required for a Category C subproject.

NOTE: Any proposed subproject under the project which results in a Category An assignment will only be considered for financing if the individual subproject activity resulting in the Category A assignment is appropriately mitigated from the subproject and/or replaced with an element that presents a less significant environmental risk (Category B or C).

Annex 7 – Sub-project Social and Environmental Screening Form

PUNJAB TOURSIM FOR ECONOMIC GROWTH PROJECT			
Subproject Title:			
Subproject location (area/district/site):			
Subproject scope of work:			
Implementing Agency:			
Date of screening:			
Responsible agency:			
S/N.	**Screening Criteria**	**Assessment of category**	**Explanation**
ENVIRONMENT			
1	Is the subproject in an eco-sensitive area or adjoining an eco-sensitive area or monument? (Yes/No) If Yes, which is the area? Elaborate impact accordingly.		
2	Will the subproject create significant/limited/no environmental impacts during the construction stage? • Clearance of vegetation/ tree-cover/other • Direct discharge of construction run-off, improper storage and disposal of excavation spoils, wastes and other construction materials adversely affecting water quality and flow regimes. • Flooding of adjacent areas. • Improper storage and handling of substances leading to contamination of soil and water. • Elevated noise and dust emission. • Disruption to traffic and visitor's movements. • Damage to existing infrastructure, public utilities, and amenities. • Failure to restore temporary construction sites. • Possible conflicts with and/or disruption to local community and/or visitors. • Health risks due to unhygienic conditions at workers 'camps. • Safety hazards during construction		
3	Will the subproject create significant/limited/no environmental impacts during the operational stage? (Significant / limited / no impacts) • Flooding of adjacent areas • Impacts to water quality due to effluent discharge • Gas emissions • Safety hazards • Other, specify.		
4	Does the subproject involve any prior clearance from the State Forest Department for either the conversion of forest land or for tree-cutting? (Yes/ No). If yes, which?		

CULTURAL HERITAGE			
5	Will the subproject create significant/limited/no cultural properties impacts? • Involve significant excavations, demolition, movement of earth, flooding or other major environmental damages. • Is located within or in the vicinity of a recognized cultural property conservation area or heritage site. • Is designed to support the management or conservation of a cultural property. • Other, specify.		
6	Does the subproject involve any prior clearance from the Archeology Department for either the conservation or management of heritage sites or vicinities? (Yes/ No). If yes, which?		
SOCIAL			
7	Will the subproject create significant/limited/no social impacts? • Land acquisition resulting in loss of income from agricultural land, plantation or other existing land. • Impact on livelihood and economic activity. • Land acquisition resulting in relocation of households. • Any reduction of access to traditional dependent communities (to areas where they earn for their primary or substantial livelihood). • Any displacement or adverse impact on tribal settlement(s). • Adverse impacts to women, including economic and safety concerns. • Impact on infrastructure (roads, water supply, any other type of infrastructure) • Other, specify.		
Overall Assessment			
o	Subproject is declined		
o	Subproject is accepted		
o	Subproject is classified as environmental Category A and requires an in-depth Environmental and Social Impact Assessment and an Environmental Management Plan.		
o o	Subproject is classified as environmental Category B and requires an Environmental Management Plan.		
o	Subproject is classified as environmental Category C and does not require an Environmental Management Plan.		

Annex 8 – ESMP Guidelines for Sub-Projects

EMP: GUIDELINES FOR AN ENVIRONMENTAL MANAGEMENT PLAN

When a subproject includes distinct mitigation measures (physical works or management activities), an Environmental Management Plan (EMP) needs to be included with the subproject application.

Site Specific EMP General Format/ Contents:

An EMP usually includes the following components:

- Description of adverse effects: The anticipated effects are identified and summarized.
- Description of mitigation measures: Each measure is described with reference to the effect(s) it is intended to deal with. As needed, detailed plans, designs, equipment descriptions, and operating procedures are described.
- Description of monitoring program: Monitoring provides information on the occurrence of environmental effects. It helps identify how well mitigation measures are working, and where better mitigation may be needed. The monitoring program should identify what information will be collected, how, where and how often. It should also indicate at what level of effect there will be a need for further mitigation. How environmental effects are monitored is discussed below.
- Responsibilities: The people, groups, or organizations that will carry out the mitigation and monitoring activities are defined, as well as to whom they report and are responsible. There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies.
- Implementation schedule: The timing, frequency and duration of mitigation measures and monitoring are specified in an implementation schedule, and linked to the overall subproject schedule.
- Cost estimates and sources of funds: These are specified for the initial subproject investment and for the mitigation and monitoring activities as a subproject is implemented. Funds to implement the EMP may come from the subproject grant, from the community, or both. Government agencies and NGOs may be able to assist with monitoring.

Monitoring Methods:
Methods for monitoring the implementation of mitigation measures or environmental effects should be as simple as possible, consistent with collecting useful information, so that community members can apply them themselves.

Annex 9 – 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.				
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.				
Potential impacts				
Land (quantify and describe types of land in "remarks column".				
Government or state owned land free of occupation (agriculture or settlement)				
Private land				
•Residential				
•Commercial				
•Agriculture				
•Communal				
•Others (specify in "remarks").				
Land-based assets:				
•Residential structures				
•Commercial structures (specify in "remarks")				
•Community structures (specify in "remarks")				
•Agriculture structures (specify in "remarks")				
•Public utilities (specify in "remarks")				
•Others (specify in "remarks")				
Agriculture related impacts				
•Crops and vegetables (specify types and cropping area in "remarks).				
•Trees (specify number and types in "remarks").				
•Others (specify in "remarks").				
Affected Persons (DPs)				
•Number of DPs				
•Males				
•Females				
•Titled land owners				
•Tenants and sharecroppers				
•Leaseholders				
•Agriculture wage laborers				
•Encroachers and squatters (specify in remarks column).				

Potential Impacts	Yes	No	Expected	Remarks
•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".				
•Others (specify in "remarks")				
Section 2				
Others (specify in "remarks".				
Are there any other minority groups affected by land acquisition or project activities? If "Yes" check the following items				
•Minority groups (specify in "remarks"). Describe nature of impacts				

Annex 10 – Physical Cultural Resource Management Framework and Chance Find procedures

A. The PCR Management Framework

The PCR Management Plan can constitute a section of the Environmental Management Plan, if one is required. The Management Plan should clearly:

- Schedule the implementation of the proposed PCR mitigating measures and PCR monitoring, if any, taking into account the weather pattern, and identify roles and responsibilities for such implementation;
- Identify procedures for handling chance finds, including the role and responsibilities of the cultural authorities and the contractor; and
- Identify procedures for addressing PCR impacts which may occur during implementation but were not predicted in the impact assessment.

The following are the main considerations guiding the preparation of the PCR Management Plan.

1. Policy, Legal and Regulatory Framework

This section should contain reference to the following, including identification of any implications for the PCR component of the ESMP, such as special standards or requirements:

- The World Bank‘s EA policy OP/BP 4.01 and the PCR policy OP/BP 4.11;
- Sections of national EIA laws, regulations and guidelines relating to PCR;
- Sections of the national environmental conservation strategy, if any, relating to PCR;
- Legislation and regulations relating to:
    - Antiquities, including sale and export;
    - Procedures for addressing chance finds, in terms of ownership and requirements by the contractor and cultural authorities;
    - Archaeology, including the issue of permits.
- Relevant authorities charged with PCR identification, protection and management, their powers, the legal basis for their authority, and their actual capacity;
- PCR-related conventions and treaties to which the borrower country is signatory;
- Sites in the borrower country currently listed by other international agency in the field of PCR such as the World Monuments Fund, or ICOMOS, as being of national or international importance;
- Any national or provincial registers of PCR maintained by accredited authorities in the borrower country.

2. Project Description

The project description should detail construction and operation phases, including maps, diagrams and plans of planned activities. The description should take into consideration any potential impacts on PCR of planned activities, construction/rehabilitation processes, transport arrangements, etc.

3. Analysis of Alternatives

In cases where there are major PCR issues, the analysis of alternatives should consider alternative project sites or technologies that could specifically avoid or minimize those impacts on PCR.

4. Baseline Data

The baseline data should begin with an investigation and inventory of PCRs likely to be affected by the project. The data should consider all types of PCR that might be impacted, covering:

- Living-culture PCR, as well as historical, archaeological and paleontological PCR;
- Natural and human-made PCR;
- Movable and immovable PCR;
- Unknown or invisible PCR.

The data collection activity should involve consultations with concerned parties and potentially affected communities. Potential data sources might include cultural authorities, national or provincial PCR registers, universities and colleges, public and private PCR-related institutions, religious bodies and local PCR NGOs. Sources at the community level typically include, for example, community leaders and individuals, schools, religious leaders, scholars, PCR specialists, and local historians.

The baseline data section should include maps showing PCR baseline data within the potential impact areas. In addition, data should detail the cultural significance or value attributed by the concerned or affected parties to the PCR identified in the baseline. Consultation is a particularly important means of identifying PCR and documenting their presence and significance. This will normally not be expressed in monetary terms, but rather should explain the nature of the cultural significance, for example whether it is religious, ethnographic, historic, or archaeological. In the case of PCR of archaeological, architectural, paleontological or other scholarly or scientific value, the PCR Management Plan should provide an assessment of the relative importance of the PCR in this regard locally, nationally and/or internationally.

5. Impact Assessment

PCR should be included in the impact matrix and PCR impacts for each project stage – construction/rehabilitation, operation, etc. – should be detailed. The PCR Management Plan should specifically describe the nature and extent of the potential impacts and state precisely why they are considered to be significant or insignificant. The impact assessment should also consider the possibility of accidents during construction/rehabilitation and operations which might affect PCR, especially in urban settings, which might call for special precautionary measures.

6. Mitigation Measures

It is particularly important that consultations with concerned and affected parties are conducted on the proposed mitigation measures relating to PCR impacts. Agreements must be reached and evidence of such agreements should be included in PCR Management Plan. It should be checked whether the recommended mitigation measures might themselves have environmental impacts (e.g. archaeological excavations). PCR Management Plan should detail the cost of implementing and the timing of the recommended PCR mitigation measures.

B. Chance Find Procedures

Chance find procedures which will be used during this Project are as follows:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry in charge of Department of Archaeology take over;
- Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry immediately (within 24 hours or less);
- Responsible local authorities and the Ministry in charge of Department of Archaeology would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Department of Archaeology and Museums (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry in charge of Department of Archaeology. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;
- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry in charge of Department of Archaeology; and
- Construction work could resume only after permission is given from the responsible local authorities and the Ministry in charge of Department of Archaeology concerning safeguard of the heritage.

These procedures must be referred to as standard provisions in construction contracts, when applicable. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.

The contact information for the Youth Affairs, Sports, Archeology & Tourism Department, Government of Punjab is:

Telephone: +92-42-99231526, 99231527,

Fax: +92-42-99231087

Annex 11 – Sample Terms of References for Environment Specialist (PIU)

The Environment Specialist will be based in Project Implementation Unit (PIU) Lahore, Punjab Resource Management Program (PRMP) under the Planning and Development Department, (P&DD).

Tasks: Environmental Specialist will be responsible for the following duties and responsibilities relevant to project environmental safeguards compliances and mitigation measures

Objective:

Provide expert support to executing agencies in the office and field, provide support to implement activities related to the project components to compliance the environmental safeguards and mitigation measures.

Main responsibilities are:

- Deal with environmental aspects of the project and provide feedback to the Project Director on implementation of environmental action plan under the activities of the project.
- Support in compliance of the credit conditions and covenants pertaining to Environmental Safeguards.
- Update in Implementation of Environmental aspects of the project.
- Oversee environmental monitoring of the ESMF and site specific ESMPs
- Provide technical support to works consultants in the development of site specific ESMPs
- Coordinate with implementing agencies and works contractors for onsite implementation of ESMPs.
- Organize and conduct the trainings on ESMF and ESMP compliances as proposed in mitigation plan.
- Prepare monthly, quarterly progress reports of Environment and Social Management Framework (ESMF).
- Prepare final progress report of the ESMF and submit to the World Bank.
- Ensure the HSE compliance onsite by the civil works consultants / contractor at project sites.
- Coordinate and conduct Environmental Field Monitoring visits of Project Areas.
- Review and revision of documents and ensuring timely delivery of outputs as agreed between The World Bank and PIU, PRMP.
- As and when required contribute to the ongoing activities of the safeguard unit.
- Assist the Project Director in routine office matter when require.
- Work as the focal point for World Bank to provide necessary requirements of environmental compliances within the project.

Academic Qualification:

Post Graduate degree in Environmental Sciences with 5-8 years of relevant work experience in dealing with Environmental management and implementation in development projects.

Salary and Benefits:

PRMP will decide as per their rules and regulations for the project

Duration: Till project period

Terms of Reference for Resettlement Specialist

Tasks – He/she will be based in the PIU and will oversee all aspects of resettlement planning, implementation and monitoring.

Responsibilities:

- Guide and initial screening of projects to establish impacts on land and resettlemt issues
- Guide and produce RAPs
- Oversee the implementation of RAPs
- Ensure coordination between PIU, government departments/agencies and all relevant official stakeholders
- Oversee all consultations with local communities for RAP preparation and implementation
- Oversee all monitoring arrangement, including development of protocols and implementation. Ensure production of high quality RAP progress reports
- Prepare monthly and quarterly progress reports on RAP
- Undertake and coordinate capacity building on RAP and all related aspects

Qualifications:

Post graduate degree in social sciences. 8-10 years of experience in developing and implementing resettlement aspects of projects. Good command of English. Proven report writing skills.