



ENVIRONMENTAL & SOCIAL MANAGEMENT FRAMEWORK (ESMF)



Fifth Edition

APRIL 2014

Environmental & Social Management Framework



*“Well governed,
transparent, accountable,
and sustainable
community institutions
with the capacity to take
environmentally and
socially responsible
decisions in the process
of transformation.”*

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ACRONYMS

CO	Community Organization
CQA	Compliance and Quality Assurance
CSOs	Civil Society Organizations
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ESM	Environment and Social Management
ESMF	Environmental and Social Management Framework
ESMU	Environment and Social Management Unit
ESR	Environmental & Social Review
IEE	Initial Environmental Examination
IESR	Integrated Environmental & Social Review
IPPF	Indigenous Peoples Planning Framework
IPs	Indigenous Peoples
KP	Khyber Pakhtunkhwa
NEQS	National Environmental Quality Standards
NOC	No Objection Certificate
O&M	Operation and Maintenance
OG	Over Ground (<i>Water Tanks</i>)
OH	Over Head (<i>Water Tanks</i>)
OPD	Out Patient Department
PEPA	Pakistan Environmental Protection Agency
PKR	Pakistani Rupee
POs	Partner Organizations
PPAF	Pakistan Poverty Alleviation Fund
QPRs	Quarterly Progress Reports
TOR	Terms of Reference
UC	Union Council
UG	Under Ground (<i>Water Tanks</i>)
WB	The World Bank

EXECUTIVE SUMMARY

I. Introduction

PPAF is the lead Apex institution of the Country, sponsored by the Government of Pakistan and funded by the World Bank and other international donors, wholesaling funds to civil society organizations and Partner Organizations or “POs”. The PPAF’s mission is brought forward through the implementation of an integrated and multi-sectoral social development program, including: Micro Finance (MF), Community Physical Infrastructure (CPI), Water & Energy (W&E), Health & Education (H&E), Livelihood Enhancement and Protection (LEP), and Institutional Development (ID).



The World Bank’s Third Pakistan Poverty Alleviation Fund (PPAF-III) Project started in 2009 has an aim to improve poverty outcomes through an approach of consolidation and saturation in targeted areas, a stronger focus on the marginalized groups of the most vulnerable and poorest households including women, and through integrated approaches to livelihood enhancement. The Environmental and Social Management Framework (ESMF) was prepared at the project preparation stage of the PPAF-III Project. This fifth edition is an upgraded version of the ESMF to incorporate new interventions and schemes introduced by PPAF.

The Environmental and Social Management Framework (ESMF) has been developed to set out the environmental and social assessment procedures required by PPAF and its POs to assess the environmental and social effects by PPAF supported interventions. These assessment procedures are designed with a view to obviate interventions with significant negative environmental and social impacts. ESMF provides guidelines and technical and legal instruments to minimize potential negative impacts by incorporating mitigations at the design stage, and subsequently implementing them at the implementation stage of the interventions.

II. Environmental and Social Screening and Assessments

a. Environmental and Social Screening

The type of environmental and social assessment and all corresponding guidelines for each of PPAF’s supported interventions have been developed using the following criteria:

1. World Bank’s Environmental and Social Assessment requirements;
2. Provisions of the Pakistan Environmental Protection Act 1997, Punjab Environmental Protection Act 1997, Balochistan Environment Protection Act 2012, Azad Jammu and Kashmir environmental Protection Act, 2000 and Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environmental Impact Assessment

- Regulations, 20001 for the level of assessment required for the intervention, i.e., Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA);
3. Individual and cumulative environmental impacts of interventions in different geographical areas;
 4. PPAF's negative lists for interventions.

b. Environmental and Social Assessments

Based on the environmental and social screening criteria mentioned above, the ESMF proposes four types of environmental and social assessments for PPAF interventions, as discussed below:

- *An Environmental and Social Review (ESR) for this ESMF is defined as a confirmation statement that the intervention qualifies the minimum environmental and social criteria; proposed mitigations measures and costs are made part of the proposal and implemented accordingly; and finally the proponent verifies the same at the completion stage.*
- *An Integrated Environmental and Social Review (IESR) for this ESMF is defined as an assessment which is required for those interventions whose anticipated potential individualistic and cumulative environmental and social impacts are more than those of general PPAF interventions and less than the scope of initial environmental examination required under Pakistan Environmental Protection Act 1997. Under this assessment the proponent of the project has to produce a confirmation statement that the proposed intervention qualifies the minimum environmental and social criteria; proposed mitigations measures and costs are made part of the proposal and implemented accordingly; and finally the proponent verifies the same at the completion stage.*
- *An Initial Environmental Examination (IEE), according to Pakistan Environmental Protection Act 1997, IEE is a preliminary review of the reasonably foreseeable qualitative and quantitative impacts of a proposed project on environment to determine whether it is likely to cause an adverse effect requiring preparation of an environmental impact assessment. IEE for selected PPAF interventions will be carried out according to the standard format contained in Pakistan Environmental Assessment Procedures 1997.*
- *An Environmental Impact Assessment (EIA), as stated in the Pakistan Environmental Protection Act 1997 is an environmental study comprising collection of data, prediction of qualitative and quantitative impacts, comparison of alternatives, evaluation of preventive, mitigation and compensatory measures, formulation of environmental management and training plans and monitoring arrangements, and framing of recommendations and such other components as may be prescribed.*

c. Consultations

Believing in participatory development through consultative planning and implementation, the PPAF considers consultations as basic strategy for implementing its program. However, in reference to implementation of the ESMF, especially for undertaking the Environmental Assessments or the Indigenous Peoples planning process, the PPAF follows the World Bank guidelines on “free, prior, and informed consultations”.

¹ Complete Schedule I and Schedule II of Pakistan Environmental Protection Agency Review of IEE and EIA Regulations, 2000 are attached as Annexure 1a and 1b respectively.

III. Institutional Arrangements

a. Institutional Arrangements

Two types of institutional arrangements / actions have been put in place for effective implementation of ESMF. These have been:

i. Establishment of an Environment and Social Management Unit (ESMU)

A fully committed and gender balanced, well-staffed, Environment and Social Management Unit (ESMU), serves as the custodian of ESMF within PPAF and is suitably placed. Key responsibilities of ESMU include:

- Ensure ESMF dissemination and enforcement across all interventions and programs of PPAF,
- Ensure that environmental and social mitigation measures are given in ESMF are part of the PO proposals
- Carry out physical verification of the claimed ESMF compliance.
- Prepare quarterly ESMF compliance report and Annual Environmental and Social Report.
- Maintain environmental database and integrate it with existing GIS.
- Coordinate with all PPAF operational units for the effective compliance of ESMF.
- Coordinate with the external monitor for the annual external monitoring.

ii. Appointment of Environmental and Social Management Professionals in POs

POs will appoint/nominate Environmental and Social Management Focal Persons in their organizations. These focal persons will be responsible for incorporating ESMF requirements in the project proposal, ensure that agreed environmental mitigation presented in the proposal have been implemented, conduct periodic environmental monitoring, and submit the monitoring reports to ESMU. So far, all of PPAF's existing partners have appointed/nominated such professionals.

iii. Grievance Redressal Mechanism

In case of any non-compliance of ESMF, complaints can be sent to respective PO or PPAF-ESMU. The reported complaints will be treated confidentially, assessed impartially and handled efficiently, and aggrieved parties will be informed after resolution of complaints with necessary details (actions taken, by whom and when). A three member PPAF Grievance Committee will address the complaints which can be forwarded to:

Chief, Internal Audit
Pakistan Poverty Alleviation Fund
14, Hill Road, F-6/3, Islamabad, Pakistan
Tel. +92 (51) 111000102
Email complaints@ppaf.org.pk

The PPAF will use its established Grievance Redressal Mechanism to handle any complaints. In case the complainant is not satisfied with the redressal of the complaint, the provincial Environmental Protection Tribunals or the courts of law can be approached for redressal.

IV. Dissemination and Enforcement

The Environment and Social Management Unit (ESMU) is responsible for the dissemination and enforcement of the ESMF. Through its programs, the ESMF has been continuously disseminated amongst partners and PPAF staff, which will continue throughout the remaining PPAF III period through refreshers for older as well as new partners. Enforcement has also been monitored by ESMU, through quarterly progress reporting as well as field verification exercises.

a. Dissemination

- Capacity building of PPAF and POs in monitoring and evaluating performance against environmental and social safeguards.
- Establish multipurpose, thematic, provincial/regional networks of PO ESM Focal Points with special focus on environmental and social safeguards compliance.
- Networking with the national and provincial environmental and social institutions.
- ESMF will be disseminated among all stakeholders, through carefully planned events, including seminars, workshops and roundtable discussion. ESM Annual Work Plan will encompass:
 - Seminars, roundtables and national workshop on ESMF compliance and presentation of success stories,
 - Provincial/regional/thematic workshops on the selected issues in collaboration with POs Networks or a leading PO, and
 - POs to organize internal environmental workshops; environmental focal persons trained in the ESMF training workshops will serve as the master trainers.
- Invitation to these events will be extended to all major stakeholders, and their proceedings will be circulated to all the invitees. Again, a number of leaflets will be published on specific environmental and social issues and a culture of e-alerts will be created throughout the network of POs.

This version of ESMF will be translated into Urdu or other local languages, as appropriate, to enhance its understanding and use by community institutions

b. Enforcement

Establishing an Environmental and Social Reporting Regime

This has already been set in place for a year now, with almost 100 % partners complying with the reporting requirements. Based on these quarterly progress reports, Environment and Social Management Unit (ESMU) prepares consolidated quarterly reports on safeguards compliance, as well as uses the data for designing and executing field verification exercises.

Regular Internal Monitoring by PPAF

Based on the quarterly progress reports submitted by PO, financial portfolio and environmentally significant priority districts, the ESMU plans and carries out the Environmental and Social Audits. The audit teams comprise of ESMU staff, as well as staff from other operational units. Moreover, operational units also report compliance levels in their mission reports, by filling up ESM Checklist (mandatory for all types of missions carried out by the PPAF staff).

External Monitoring/Assessment

ESMU will outsource the Annual Environmental and Social Monitoring/Assessment to a renowned and competent environmental organization. Based on detailed desk and field investigations the external monitor will present recommendations for improvements in the environmental and social management regimes and the design and contents of ESMF. So far one such exercise has already been completed and its recommendations incorporated in PPAF.

V. Costs Associated with ESMF Mainstreaming and Compliance

There are two types of costs associated with operationalizing and implementing ESMF. That is, ESMF mainstreaming costs to be borne by PPAF, and ESMF compliance costs to be borne by the POs. The total budget for mainstreaming ESMF is Rs. 138 million.

SECTION I



INTRODUCTION TO ESMF



Chapter 1

INTRODUCTION

The Pakistan Poverty Alleviation Fund (PPAF) represents an innovative model of public private partnership. Incorporated as a not for profit corporate entity, it follows the regulatory requirements of the Securities and Exchange Commission of Pakistan.

Sponsored by the Government of Pakistan and funded by the World Bank and other leading agencies and donors PPAF is the lead Apex institution of the country, wholesaling funds to civil society organizations. PPAF forms partnerships on the basis of a rigorous criterion. Before finalizing partnerships, it ensures that the partners have well targeted community outreach programs that are committed to enhancing the economic welfare and income of the disadvantaged people. Benefits accrue directly to the vulnerable through income generation, improved physical and social infrastructure, and training and skill development support.

The World Bank's Third Pakistan Poverty Alleviation Fund (PPAF-III) Project was started in 2009. The project aims to build upon PPAF's past experience to improve poverty outcomes through an approach of consolidation and saturation in targeted areas, a stronger focus on the marginalized groups of the most vulnerable and poorest households including women, and through integrated approaches to livelihood enhancement. To ensure compliance of environmental and social safeguards, the Environmental and Social Management Framework (ESMF) was prepared in 2009 at the project preparation stage of the PPAF-III Project. This Fifth Edition is an upgraded version of the ESMF to incorporate safeguards for new interventions and schemes introduced by PPAF.

The key features of the PPAF-III project are:

a. Social Mobilization and Institutional Building

The objective of this component is to target and empower the poor by supporting their organization into three tiers; namely i) Community Organizations (CO), ii) Village Organizations (VO), and iii) Union Council level Third Tier Organizations, to build voice and scale for an effective interface with local government bodies, other development programs and markets.

b. Livelihood Enhancement and Protection

The objective of this component is to develop the capacity, opportunities, assets and productivity of community members to reduce their vulnerability to shocks, improve their livelihood initiatives and strengthen their business operations.

c. Micro-credit Access

The objective of this component is to improve availability and access of the poor to microfinance to enhance their capacities, productivity and returns from livelihood initiatives.

d. Basic Services and Infrastructure

The objective of this component is to establish and upgrade basic services and community infrastructure to serve the poor, and improve health and education facilities.

PPAF Priority Districts for Grant Operations

With a view to encouraging a holistic approach to poverty alleviation that includes social mobilization as well as a multi-sector package, enhances impact on the poor, and promotes cost-effectiveness in its operations, the PPAF has adopted the policy of focusing its grant resources on a number of priority districts and tribal agencies.

The following considerations were taken into account for selecting these:

- All those 29 districts have been included in which social mobilization was undertaken as part of the World Bank-assisted social mobilization project, which started in 2007.
- The following country-wide assessments were consulted in order to determine the development status of a district:
 - “Trends in Regional Human Development Indices,” by Haroon Jamal and Amir Jahan Khan, Research Report No. 73, Social Policy and Development Centre (SPDC), Karachi, July 2007; and,
 - “Food Insecurity in Pakistan, 2009,” prepared by the Sustainable Development Policy Institute, Swiss Agency for Development and Cooperation, and World Food Programme, which ranks 127 districts (plus Islamabad) in all four provinces, Azad Jammu and Kashmir (AJK), Federally Administered Tribal Areas (FATA) and Gilgit Baltistan (GB) on the basis of food security.
- For the four provinces, with a few exceptions from the Social Mobilization Project, districts with Human Development Index (HDI) values above the average HDI of Punjab were not included among the Priority Districts.
- As HDI values are not available for the 24 districts and agencies in AJK, FATA and GB, food security rankings were used as the primary basis for inclusion among the Priority Districts. Assumptions were made for four of the districts of AJK and GB for which the food security status was not reported.
- The number of districts selected from each province reflects, approximately, the overall development status of the province. All agencies of FATA and half the districts of AJK have been included, as well as five of the seven districts of GB.

The result is a list of 82 priority districts and tribal agencies (see Annexure 2 for the map), that is, 59% of all districts and agencies in the country; 17 of these are in AJK, FATA and GB, and 65 in the four provinces. Out of the 82 priority districts and agencies, it is estimated that 43 are extremely food insecure. Of the 65 districts selected from the four provinces, it is estimated that 58 have HDI values below the average HDI for Punjab. Districts that were declared severely or moderately affected by the 2010 floods have also been identified, although this classification has not been used for the purposes of selecting Priority Districts. Out of the 29 severely affected districts, 20 are included among the Priority Districts. This district prioritization is based on comparative situation of districts under normal circumstances. A natural disaster or conflict may change the priority level of any district. The inclusion of a district on such recount may be considered on a case to case basis.

PPAF is an environmentally sensitive organization and is committed to sustainable development from a social and environmental perspective. PPAF always ensures that all PPAF supported interventions remain socially acceptable and environment friendly. In line with these objectives, compliance with the PPAF Environmental and Social Management Framework (ESMF) is mandatory for all the Partner Organizations (POs) while implementing any of PPAF’s supported interventions. Existing Environmental and Social Management Framework (ESMF) covers national environmental laws, World Bank operational policies for social and environmental safeguards and adheres to PPAF’s core principles of environmental responsibility and social transformation.

The ESMF provisions for compliance to these laws and safeguard policies, allows their incorporation in the project design, construction regimes, as well as the Operation and Management of all projects.

Considering the evolving list of interventions, along with addition of new geographical areas, and up-scaling in size and numbers of interventions, PPAF consistently reviews and upgrades the ESMF with the view to maintain its completeness, status, efficacy, and user friendliness.

I. Background of Environmental and Social Management Framework

Environmental and Social Management Framework (ESMF) has been prepared to meet the World Bank’s safeguards requirements and set out the environmental and social assessment procedures required by PPAF and its POs to assess the environmental and social consequences of PPAF interventions.

The objectives of the ESMF are as follows:

- Prevent execution of interventions with significant individual or cumulative negative environmental and social impacts;
- Minimize potential individual and cumulative negative impacts by incorporating mitigations at the design stage and implementing mitigations at the implementation stage of the interventions;
- Enhance the positive impacts of interventions;
- Protect environmentally and socially sensitive areas from additional disturbance from human interventions.

The procedures in the ESMF were designed to:

- Facilitate PPAF and Partner Organizations (PO) to adopt intervention specific and structured environmental and social assessment formats;
- Enable PPAF and POs to monitor the implementation of ESMF on the basis of intervention specific and structured environmental and social assessment formats.

II. World Bank Operational Policies

World Bank projects and activities are governed by Operational Policies, which are designed to ensure that the projects are economically, financially, socially and environmentally sound. A summary of the safeguard policies and their triggering status for PPAF-III is given below.

World Bank Operational Policies	Relevance to PPAF-III
<p>OP 4.01 Environmental Assessment This OP requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable. This OP also categorizes the projects on the basis of the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.</p>	<p>The PPAF-III project has been classified as Category B and this Environmental and Social Management Framework (ESMF) has been developed in response to this OP.</p>

World Bank Operational Policies	Relevance to PPAF-III
<p>OP 4.04 Natural Habitats The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. Through this OP, the WB therefore supports the protection, maintenance, and rehabilitation of natural habitats and their functions and does not support projects that require significant conversion or degradation of critical natural habitats.</p>	<p>The sub-project and schemes under PPAF-III are small in size and simple in nature hence they are highly unlikely to cause significance conversion or degradation of natural habitats. However, some interventions may be located within Protected Areas (such as National Parks, Game Reserves, or Wildlife Sanctuaries) or their buffer zones hence this OP is triggered. For any sub-project/scheme located in such an area, PPAF will conduct a dedicated study, before implementing the intervention, to assess possible impacts on the environment and to identify appropriate mitigation measures to address these potential impacts. This will include an assessment of existing and proposed schemes and communities in the relevant Protected Area and will result in an Environmental Management Plan that will have to be put in place during sub-project implementation.</p>
<p>OP 4.09 Pest Management 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.</p>	<p>This OP will not be triggered as synthetic chemical pesticides are on the negative list for PPAF-III sub-projects.</p>
<p>OP 4.10 Indigenous People The OP defines the process to be followed if the project affects indigenous people. If any indigenous groups are identified by the Social Assessment, an Indigenous Peoples Planning Framework (IPPF) will be prepared, cleared by the Bank and implemented.</p>	<p>This OP will be triggered as some PPAF-III sub-projects will be located in Kalash Valley, Chitral (home to the recognized indigenous Kalash community). In response to OP 4.10, an IPPF has been prepared for Kalash Valley and will be implemented for all sub-projects in the area. (See Annexure 13)</p>
<p>OP 4.11 Physical and Cultural Resources This policy regarding cultural properties is to assist in their preservation, and to seek to avoid their elimination.</p>	<p>This OP will not be triggered as interventions in ‘Notified Archaeological Sites and Monuments of Pakistan’ are in the negative list of PPAF-III.</p>
<p>OP 4.12 Involuntary Resettlement This policy includes safeguards to address and mitigate the impoverishment risks (dislocation, asset loss, income loss, and others) associated with the involuntary resettlement.</p>	<p>This OP will not be triggered. PPAF-III project will not involve any involuntary resettlement as any land required for project interventions is voluntarily provided by the community. The form (as provided in the ESMF) for donated land will be duly completed and documentation maintained.</p>

World Bank Operational Policies	Relevance to PPAF-III
<p>OP 4.20 Gender and Development This policy aims at addressing the gender disparities and inequalities that are barriers to development. In sectors and thematic areas where the Country Assistance Strategy (CAS) has identified the need for gender-responsive interventions, the Bank's assistance to the country incorporates measures designed to address this need. Projects in these sectors and thematic areas are designed to adequately take into account the gender implications of the project.</p>	<p>The Project will ensure gender participation in the design, implementation and O&M of various facilities, by specifying minimum percentage of women in community organizations and project management committees. The track record of PPAF indicates that more than 50 percent of its micro-credit and infrastructure beneficiaries are women. In case of health and education related interventions, the proportion of female beneficiaries exceeds 60 percent.</p>
<p>OP 4.36 Forests 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. Bank does not finance projects/ plantations that would involve the significant conversion or degradation of critical forest areas or related critical natural habitats.</p>	<p>This OP will not be triggered as: PPAF-III schemes are community based and therefore located on lands already converted. PPAF-III schemes are small scale community based interventions that are highly unlikely to result in the significant conversion or degradation critical forest areas.</p>
<p>OP 4.37 Safety of Dams The Policy seeks to ensure that appropriate measures are taken and sufficient resources provided for the safety of dams the WB finances.</p>	<p>This OP will not be triggered as PPAF-III will only support the construction of 'mini dams', (with a height of less than 10m and reservoir area of less than 2.5 ha). These dams are designed with regard to safe discharge of highest floods ever experienced and are built at locations, which ensure that in case of unlikely failure, no loss of life or property takes place.</p>
<p>OP 7.50 Projects on International Waterways This OP defines the procedure to be followed for projects the WB finances that are located on any water body that forms a boundary between, or flows through two or more states.</p>	<p>This OP is not applicable since the project does not involve any works on international waters.</p>
<p>OP 7.60 Projects in Disputed Areas Projects in disputed areas may raise a number of delicate problems affecting relations not only between the Bank and its member countries, but also between the borrower and one or more neighboring countries. In order not to prejudice the position of either the Bank or the countries concerned, any dispute over an area in which a proposed project is located is dealt with at the earliest possible stage.</p>	<p>Project interventions will take place in all federating units of the Country, including Azad Jammu Kashmir, which is a disputed area. Hence this OP is triggered.</p>

World Bank Operational Policies	Relevance to PPAF-III
<p><i>The World Bank Policy on Access to Information</i></p> <p>While the Bank allows access to any information in its possession that is not on a list of exceptions and over time the Bank declassifies and makes publicly available certain information that falls under the exceptions, through this policy the Bank has reserved its right, under exceptional circumstances, to disclose certain information covered by the list of exceptions, or to restrict access to information that it normally discloses.</p>	<p>Though primarily applicable to the Bank, the Policy encourages PPAF to be open and transparent as far as its knowledge, best practices and approaches are concerned. Like the Bank, PPAF believes that openness and transparency are fundamental development processes to end poverty and promote shared prosperity.</p>

III. Guiding Principles of ESMF

1. Cover both individual and cumulative environmental and social impacts of interventions.
2. Simple, intervention specific, short and user friendly.
3. Instruction based rather than user discretion based.
4. Meet PPAF eligibility criteria and operational manuals of PPAF units.
5. In line with Pakistan Environmental Assessment Procedures and World Bank Environmental Assessment Procedures and other international environmental legislations, guidelines and tools.
6. Enable its users (PPAF, POs, and community institutions) to enforce the compliance of environmental and social safeguards in letter and spirit.
7. Ensure legally verifiable practices of land acquisition for all PPAF funded projects/interventions. Legally verifiable practices include a mutually agreed and duly signed undertaking between the proponent of the project and the land owner or any land donating entity. (See Annexure 3).

IV. Guidelines on Consultations

In pursuit to implement the Environment and Social Management Framework, PPAF follows the World Bank guidelines² for undertaking consultations. Following are broad guidelines for consultation for undertaking the Environmental Assessments or the Indigenous Peoples planning process:

1. For all Category A and B projects (for which EIA and IEE is required, respectively), during the EA process, the Partner Organization (or its designated third party consultant) will consults project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The PO will initiate such consultations as early as possible. For Category A projects, the PO will consult these groups at least twice:
 - a. shortly after environmental screening and before the terms of reference for the EA are finalized; and

² Excerpted from WB OP 4.01: *Environmental Assessment* and WB OP 4.10: *Indigenous Peoples*.

- b. once a draft EA report is prepared.

In addition, the borrower consults with such groups throughout project implementation as necessary to address EA related issues that affect them

2. Where the project affects Indigenous Peoples, the PO will engage in free, prior, and informed consultation with IPs. To ensure such consultation, the PO will:
 - a. establish an appropriate gender and intergenerationally inclusive framework that provides opportunities for consultation at each stage of project preparation and implementation among the borrower, the affected Indigenous Peoples' communities, the Indigenous Peoples Organizations (IPOs) if any, and other local civil society organizations (CSOs) identified by the affected Indigenous Peoples' communities;
 - b. use consultation methods appropriate to the social and cultural values of the affected Indigenous Peoples' communities and their local conditions and, in designing these methods, will give special attention to the concerns of Indigenous women, youth, and children and their access to development opportunities and benefits; and
 - c. provide the affected Indigenous Peoples' communities with all relevant information about the project (including an assessment of potential adverse effects of the project on the affected Indigenous Peoples' communities) in a culturally appropriate manner at each stage of project preparation and implementation.
3. The "Free, prior, and informed consultation with the affected Indigenous Peoples' communities" refers to a culturally appropriate and collective decision-making process subsequent to meaningful and good faith consultation and informed participation regarding the preparation and implementation of the project. It does not constitute a veto right for individuals or groups.

Chapter 2

INSTITUTIONAL ARRANGEMENTS

Mainstreaming of ESMF in PPAF is achieved through the incorporation of an ESMF clause in all Financing Agreements and a seat for ESM Unit in the Credit Committee. In addition to this, sections on ESM compliance have also been added into the regular Back-to-Office-Report (BTORs) format that are followed by all PPAF staff on missions. ESM checklist for all PPAF field visits has also been mainstreamed across the organization and is being used. ESM protocols are present in all Operational Units' manuals and processes, and are being followed. A flowchart showing the project implementation process and mainstreaming of ESMF is shown below:



The institutional arrangement for the implementation of ESMF will be as follows:

1. Establishment of Environment and Social Management Unit within PPAF
2. Environmental and Social Focal Persons in POs

I. Establishment of Environment and Social Management Unit

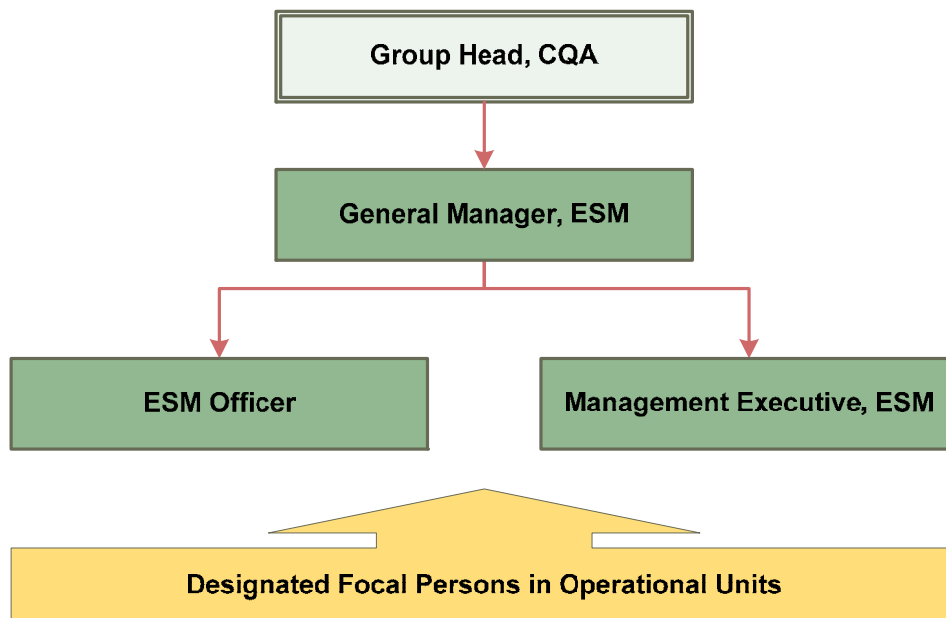
The Environment and Social Management Unit (ESMU), serves as the custodian of ESMF within PPAF and is placed in the Compliance and Quality Assurance (CQA) Group. Key responsibilities of ESMU include:

- Implement the proposed strategies for 'Dissemination and Enforcement of ESMF'.
- Coordinate with POs environmental and social focal persons for effective ESMF compliance and POs capacity and capability building.

- Review the project proposals submitted by POs and ensure that environmental and social mitigations proposed under ESMF are part of the proposals.
- Review the project completion reports submitted by POs and check through verifiable information that the proposed mitigations were implemented during the execution of the project.
- Conduct sample based field monitoring for the physical verification of the claimed ESMF compliance.
- Prepare Environmental and Social audit reports based on the field ratification of environmental mitigation completion certificates submitted by the POs. The reports will identify mitigation shortfalls if any and advise remedial measures.
- Maintain environmental database and integrate it with existing GIS.
- Coordinate with PPAF Operational Units for the effective compliance of ESMF.
- Coordinate with the external environmental and social monitor for the annual external monitoring
- Coordinate with the international, national, provincial, and local environmental agencies and institutions on the subject of environment.
- Prepare Annual Environmental and Social Report.

The ESM Unit has evolved from deputing the available staff for ESM compliance and mainstreaming to dedicated and qualified human resources in a more robust institutional structure as shown in the organogram below. ESM Focal Persons have also been designated in all the Operational Units to assist the ESMU in implementing ESMF and mainstreaming environmental and social safeguards across the PPAF operations.

Environment & Social Management (ESM) Unit



II. Environmental and Social Focal Persons in POs

POs will appoint/nominate Environmental and Social Management Focal Persons in their organizations. These focal persons will be responsible for incorporating ESMF requirements in the project proposal, ensure that agreed environmental and social mitigation presented in the proposal

have been implemented, conduct periodic environmental monitoring, and submit the monitoring reports to ESMU.

- Incorporate ESMF requirements in the project proposal,
- Ensure that agreed environmental and social mitigation presented in the proposal have been implemented,
- Submit quarterly, and annual environmental and social progress reports to ESMU.
- Conduct quarterly, six monthly, and annual environmental monitoring and submit the reports to ESMU,
- Coordinate and cooperate with other POs in the network on the subject of environment and social management,
- Coordinate with the local and provincial environmental agencies, and
- Coordinate with ESMU.

III. Grievance Redressal Mechanism

In order to address complaints against noncompliance of ESMF, any of the affected individual or organization can register its grievance with the Grievance Committee of the PPAF or the grievance redressal mechanism setup by each PO individually. The reported complaints will be treated confidentially, assessed impartially and handled efficiently, and aggrieved parties will be informed after resolution of complaints with necessary details (actions taken, by whom and when). The PPAF Grievance Committee is comprised of the following:

1. Chief, Internal Audit
2. Group Head, Compliance and Quality Assurance Group
3. General Manager, ESM

The complaints can be forwarded to the Committee at the following address:

Chief, Internal Audit
Pakistan Poverty Alleviation Fund
14, Hill Road, F-6/3, Islamabad, Pakistan
Tel. +92 (51) 111000102
Email complaints@ppaf.org.pk

The following Standard Operating Procedures are practiced at PPAF for effective and timely redressal of complaints:

1. The grievance redressal mechanism will be handled by the Internal Audit Unit, which will be responsible to liaise/coordinate with internal and external stakeholders, i.e., PPAF Units, government departments, POs and complainants, as and when required.
2. Anonymous complaints will not be entertained and any complaint with vague identifications will be asked to provide additional details before further proceedings.
3. All complaints will be recorded in the database and a reference number will be allotted.
4. The complainant will be contacted and informed about complaint reference number and the contact details in PPAF through letter and/or email. Moreover, he or she will be asked to share any additional information relevant to the complaint. The complainant will be contacted by PPAF, from time to time, to get clarification on the issue raised by him or her.
5. Identity of the complainant will not be disclosed to any party.
6. The complaint specific procedure for verification of validity or otherwise of the complaint will be formulated within 5 days.

7. A third party will carry-out investigation with respect to financial matters, as and when required.
8. If deemed necessary, the professionals with specific skill set, e.g., engineers, evaluators and other professionals will be hired or coopted from the Operational Units, as and when required.
9. The total timeframe for redressal of the complaint will be 4 to 6 weeks.
10. The Chief Executive Officer, PPAF will follow-up on the complaints on fortnightly basis, including status of the complaints and the progress thereon.

In case the complainant is not satisfied with the redressal of the complaint, he or she may approach the provincial Environmental Protection Tribunals set up under the relevant Environmental Protection Acts. The appeals can be filed at the Green Benches established at the provincial High Courts and the Supreme Court of Pakistan.

Chapter 3

DISSEMINATION AND ENFORCEMENT OF ESMF

I. Dissemination Strategies

Dissemination Strategy 1: Capacity building of PPAF staff and PO's in ESMF dissemination, monitoring and evaluation.

Description: PPAF Operational Units and POs will be strengthened on the subject of environment and social management by organizing training and dissemination events at all levels i.e. national, provincial, and local. Along with trainings, the second most important element will be the provision of dissemination and background materials. PPAF will further streamline its environmental activities by targeting to achieve ISO 14001 certification.

This version of ESMF will be translated into Urdu or other local languages, as appropriate, to enhance its understanding and use by community institutions

Dissemination Strategy 2: Establish multipurpose, thematic and/or provincial/regional networks of PO's with special focus on environmental and social safeguards compliance.

Description: Since PPAF's inception in year 2000, extensive knowledge and experience is available with different POs operating within the same province/region or thematic areas. These POs, when organized into networks, will learn from each other and will help each other as development partners working in the same area. PPAF has already established Sindh Coastal Areas Network (SCAN) with a similar objective. This idea will be replicated in other regions of Pakistan for environmental/social compliance objectives. Thematic and provincial/regional workshops in collaboration with these PO Networks or leading POs will help to enhance understanding of local environmental issues/thematic challenges, and compliance of the ESMF. The PPAF and POs will make serious attempts to establish these multipurpose provincial/regional networks, whose major mandate is as proposed:

- Organize multiple forums of POs with converging objectives. ESM Focal Points from respective POs will be the driving force behind these forums.
- Conduct knowledge sessions based on challenges associated with a particular region, sector or technology. Examples can be, 'water resources development and management in dry vs. coastal areas', 'environment friendly technologies for local level infrastructure', 'social inclusion vs. elite capture' etc.
- Produce Knowledge Products and Good Practice Notes on the basis of PO experience documented by the regional forums.

Dissemination Strategy 3: Do networking with the national and provincial environmental and social institutions.

Description: PPAF will invite Climate Change Division, Pakistan Environmental Protection Agency, and Provincial Environmental Protection Agencies in the PPAF events. IUCN, WWF Pakistan and LEAD Pakistan have done extensive work for environmental management at the national, provincial, and local levels. These organizations will provide large amount of environmental data and guidance to PPAF and POs on diversified environmental related subjects and issues. PPAF will bring these NGOs on board by organizing briefing sessions. So

far, PPAF has signed Memorandums of Understanding with WWF and LEAD, while the one with IUCN is under discussions.

II. Enforcement Strategies

The enforcement of the ESMF depends on the capabilities of PPAF and POs on understanding environmental and social issues as signified by the ESMF. Capabilities of PPAF and POs will be certainly enhanced after implementing above stated dissemination strategies. Once the capabilities are developed then the most important element of enforcement is the continuous follow-up through environmental and social reporting and monitoring. All interventions will require environmental assessment prior to approval as per the protocol described in Section 4. Strategies presented below focus on environmental and social reporting and monitoring for the effective enforcement of ESMF.

Enforcement Strategy-1: Start an enhanced environmental and social reporting regime.

Description: As per ESMF procedure POs are instructed to prepare environmental and social records in the form of mitigation plans and completion certificates. POs also prepare quarterly and annual environmental and social compliance progress reports (QPRs). These reports are submitted to the ESM unit and enable PPAF and POs to assess the overall compliance levels. Quarterly summaries of the QPRs are prepared by the ESM unit and submitted to the World Bank. With the introduction of PPAF's MIS, these reports will be directly uploaded by POs onto the MIS and will be analyzed by the ESM unit to track compliance.

Enforcement Strategy-2: Periodic internal monitoring by PPAF Units, ESMU and POs.

Description: PPAF Operational Units carry out periodic visits to POs for on-field facilitation and monitoring. Along with their own field monitoring objectives, the Units will also review the environmental and social reports during the periodic visits of the PO and projects. The Environment and Social Management Unit also undertakes periodic environmental and social audits of selected POs and regions for field verification and monitoring of the ESMF compliance. These audits assess the ESMF compliance levels in POs in detail as well as the process put in place by the audited POs to mainstream the ESMF at the office level, field level and community level.

PPAF POs are also required to carry out ESMF monitoring as part of their field visits, as well as conduct environmental and social audits of their interventions.

Enforcement Strategy-3: Outsource the annual ESMF monitoring/Third Party Validation to an eminent organization.

Description: The focus of the annual external monitoring will be to assess the implementation and compliance of the ESMF such as mitigation plans and completion certificates; as well as the assessment of the actual issues on ground with ESMF compliance.

III. Dissemination Action Plan

The dissemination action plan has been developed in line with the ESMF dissemination strategies. These actions are on-going and new actions to further improve efficiency and efficacy may be introduced as and when required.

a. Institutional Actions:

- Establish Environment and Social Management Unit in PPAF.
- Instruct POs to appoint environmental and social management Focal Persons.
- Enable POs to establish regional networks with multipurpose mandate.
- Start the process of securing ISO 14001 certification.

b. Environmental and Social Events:

- Organize seminars on environmental and social themes, roundtable workshops on ESMF compliance and presentation of success stories.
- Conduct ESMF Capacity Building Workshops with all PPAF POs.
- POs will organize internal ESMF Capacity Building Workshops; ESM Focal Persons trained by PPAF will serve as the master trainers.
- Extend invitation to Climate Change Division, Pakistan and Provincial EPAs, ERRAs, Provincial Planning & Development Departments, major environmental NGOs to participate in the PPAF national and provincial events.

c. Environmental and Social Materials:

- Update Reference Material and User Guidelines every two years
- Publish and distribute leaflets on specific environmental and social issues.
- Create culture of e-alerts throughout the regional network of POs.

IV. Enforcement Action Plan

The enforcement action plan developed in line with the enforcement strategies is as follows. These actions are on-going and new actions may be introduced as and when required to strengthen the process.

a. Establishing an Environmental and Social Reporting Regime:

- Instruct POs through an official memo that ESMF compliance is mandatory, Form-A: Environmental Criteria and Mitigation Plan will be included in the project proposal, and Form-B: Completion Certificate will be included in the project completion report.
- Instruct POs to submit consolidated quarterly and annual ESMF compliance reports.
- ESM Unit will compile and share quarterly and annual ESMF compliance reports with PPAF and World Bank.

b. Regular Internal Monitoring by PPAF:

- PPAF Operational Units will make it mandatory to review ESMF compliance and monitor implementation of the mitigation measures during periodic field visits of the POs and projects.
- ESM Unit will conduct Environmental and Social Audits to monitor ESMF compliance by POs and implementation of the mitigation measures by the community organizations.
- PPAF POs will carry out Environmental and Social Audits of their projects and submit results to PPAF.

c. Outsource the annual ESMF external monitoring:

To maintain a lean institutional structure and eliminating any peer biases, ESMU will outsource the Third Party Environmental and Social Monitoring/Assessment to a renowned and competent environmental organization on an annual basis (the draft Terms of Reference for the Assessment is given at Annexure 12). External monitoring team will include professionals in environmental and social sciences with experience and expertise in monitoring environmental and social safeguards of internationally funded development projects. It will include the following activities:

- Assisting in reviewing proposed POs initiatives, especially close to ecologically significant areas with ecosystems cluster approach.
- Developing a framework of annual external monitoring and get it approved from PPAF.
- Conducting annual external monitoring as per agreed format and content for comprehensive assessment of process and procedures followed and respective impacts mitigated,
- Advising ESMU on the issues of biodiversity, water management under environmental criteria, important ecological areas in Pakistan, alternatives for natural resource management while executing development project, and
- Preparing Annual ESMF compliance report on the basis of sample field inspections, POs and ESMU quarterly, ESMF compliance reports and other verifiable information.
- Preparing report on the implementation measures, as committed through environmental and social reviews and/or environmental assessment, by the relevant POs and community organizations.

Chapter 4

PROCEDURE FOR ENVIRONMENTAL AND SOCIAL SAFEGUARDS ASSESSMENT

I. Environmental and Social Safeguard's Screening

ESMF proposes four types of environmental assessments for PPAF interventions; these are as follows:

1. Environmental and Social Review (ESR)
2. Integrated Environmental and Social Review (IESR)
3. Initial Environmental Examination (IEE)
4. Environmental Impact Assessment (EIA)

Environmental and Social Safeguards Screening Protocols to assess each PPAF intervention have been developed by applying the following criteria:

- a. World Bank Operational Policies' requirements.
- b. Provisions of the Pakistan Environmental Protection Act 1997, Punjab Environmental Protection Act 1997, Balochistan Environment Protection Act 2012, Azad Jammu and Kashmir environmental Protection Act, 2000 and Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environmental Impact Assessment Regulations, 2000³ for the level of assessment required for the intervention, i.e., Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA)
- c. Individual and cumulative environmental and social impacts of interventions in different geographical areas;
- d. PPAF's negative lists of activities; and
- e. PPAF's social mobilization approach.

Table 1 presents the type of environmental and social assessment required for each intervention on the basis of application of above stated criteria.

The first column of **Table 1** categorizes the PPAF intervention in different sectors. Second column lists the typical PPAF interventions and the remaining columns instruct the proponent of the intervention regarding the type of environmental and social assessment to be conducted.

Table 1 – Environmental and Social Screening by Type of PPAF Interventions

S. No.	Sector of Intervention / Specific Intervention	Environmental & Social Screening Protocol			
		ESR	IESR	IEE	EIA
1	Water Resources Development				
	Tube Wells – Irrigation in Canal Irrigated Areas	✓			

³ Complete Schedule I and Schedule II of Pakistan Environmental Protection Agency Review of IEE and EIA Regulations, 2000 are attached as Annexure 1a and 1b respectively.

S. No.	Sector of Intervention / Specific Intervention	Environmental & Social Screening Protocol			
		ESR	IESR	IEE	EIA
	Tube Wells – Drinking Water	✓			
	Tube Wells – Irrigation in Dry Areas	✓			
	Hand Pumps	✓			
	Open Well/Dug Well	✓			
	Water Tanks (OH, OG, UG)	✓			
	Drinking Water Supply Scheme (DWSS) – Springs/ Water supply extensions/ others	✓			
	Irrigation (Drip/ Sprinkler/ Syphon/ Pipe/ Lift)	✓			
	Watercourse (new, rehabilitation, lining)	✓			
	Water Channels – Mountain Areas	✓			
	Rain Water Harvesting Pond	✓			
	Karezes	✓			
	Check Dam – Less than 10m height	✓			
	Delay Action Dams/Mini Dams – Less than 10m height	✓			
	Land Leveling (irrigation)	✓			
	Pipe Lining (PVC/ RCC) for DWSS/ Irrigation	✓			
2	Technological Innovation				
	Desalination plant (for ≤100 Households)	✓			
	Desalination plant (for more than 100 Households)	✓	✓		
	Biogas Plant (for ≤100 Households)	✓			
	Biogas Plant (for more than 100 Households)	✓	✓		
	Solar energy (for ≤100 Households)	✓			
	Solar energy (for more than 100 Households)	✓	✓		
	Wind mills (for ≤100 Households)	✓			
	Wind mills (for more than 100 Households)	✓	✓		
	Micro-hydro – Less than 1 MW	✓			
	Micro-hydro – More than 1 MW			✓	
	Micro-hydro – More than 5MW				✓
3	Access/Circulation				
	A. Internal				
	Culverts	✓			
	Street surfacing/lining (brick soiling, concrete or local material)	✓			

S. No.	Sector of Intervention / Specific Intervention	Environmental & Social Screening Protocol			
		ESR	IESR	IEE	EIA
	Pipe Lining (PVC/ RCC)	✓			
	B. External				
	Cause ways	✓			
	Retaining wall/ Gabion Wall/ Flood Protection Bund	✓			
	Link roads – plain areas	✓			
	Bridges	✓			
	Link roads- mountain areas	✓			
4	Wastewater Management				
	Sanitation schemes (latrines, T-Chambers, drains, and oxidation pond) (for ≤100 Households)	✓			
	Sanitation schemes (latrines, T-Chambers, drains, and oxidation pond) (for more than 100 Households)	✓	✓		
5	Social Sector Development				
	School (Construction/ Renovation)	✓			
	School (Adoption/ Management)	✓			
	Basic Health Unit/ dispensary (Construction/ Renovation)	✓			
	Basic Health Unit/dispensary (Adoption/ Management)	✓			
6	Other Projects				
	Solid waste management (for ≤100 Households)	✓			
	Solid waste management (for more than 100 Households)	✓	✓		
	NRM project (Natural Resource Management)	✓	✓		
	Security lights	✓			
	Jetty	✓			
7	LEP Interventions				
	Agriculture/Cropping	✓			
	Livestock/Poultry/Fish Farming	✓			
	Food Processing/Production	✓			
	Handicrafts/Cottage Industry	✓			
	Micro-enterprise	✓			
	Workshops/Technicians	✓			
	Selection Criteria for Type of Trainings and Institutes	✓			
8	Integrated Projects				
	Integrated Area Upgradation Program (IAUP)	✓	✓		

S. No.	Sector of Intervention / Specific Intervention	Environmental & Social Screening Protocol			
		ESR	IESR	IEE	EIA
	Drought Mitigation & Preparedness Program (DMPP)	✓			✓
	Integrated Infrastructure Upgradation Program (IIUP)	✓	✓		
	Integrated Water Efficient Irrigation Program (IWEIP)	✓	✓		
	Integrated Renewable Energy Program (IREP)	✓	✓		
9	Microfinance Interventions				
	Guidelines for Microfinance Interventions – no specific ESM screening protocol applies. The borrowers will be made aware of environmental and social guidelines for microfinance and they will sign covenant to follow the guidelines.				
10	Social mobilization and Institutional Building				
	No specific ESM screening protocol applies. The POs will be encouraged to follow the PPAF’s Social Mobilization Approach given at Annexure 7.				

II. Environmental and Social Review

Environmental and Social Review (ESR) is a mandatory procedure which each and every intervention financed by PPAF needs to undergo at the design as well as implementation stage. This assessment is carried out using FORM A⁴, which has been developed for each and every intervention executed under PPAF financing. The intervention specific Form A can be found in **Section II** of this document. Form A has been developed like a checklist and encompasses environment and social criteria based on a set of indicators that have been developed on the basis of perceived negative impacts of a specific intervention.

The proponents of the interventions are instructed to conduct the ESR for all those projects listed under Table 1. Project proponents are required to fill and submit the duly filled project specific Form A along with the intervention proposal to the approving authority (PPAF).

If the answer to any of the criteria in Form A is ‘No’, then the PO should work to include the required criteria in the project proposal. **The Proposal will not be accepted in case of non-compliance to any of the stated criteria in Form A.**

A copy of the completed Form A is required to be maintained in both PO and CO project files.

III. Integrated Environmental and Social Review

Integrated Environmental and Social Review (IESR) is a more comprehensive assessment than ESR, required for interventions that have possible positive or negative impacts of a cumulative nature at a communal level. The basic difference between an ESR screening and IESR is that the former reviews

⁴ Sector wise Forms A for each intervention are available in Section II – ESMF Forms for PPAF Interventions

the individual singular impacts of an individual scheme, while the latter looks at the cumulative impacts of all the schemes in question.

Interventions that qualify for an IESR are⁵:

- Integrated projects that PPAF supports (DMPP, IWEIP, IAUP, etc.),

AND/OR

- Union Council level projects benefiting multiple villages,

AND/OR

- Any scheme(s) that benefit 100 or greater number of households.

Once an IESR has been completed, PPAF Operational Unit will decide to move forward with the project, or will suggest alterations. Once the project is approved, the proponents will be required to screen **each individual scheme using the relevant ESR screening protocols (given in Section II)**, in order to assess and mitigate any singular impacts that the scheme might have. **Hence, in essence, projects with such a scale will require two levels of screening, i.e. an IESR at the proposal stage to assess the cumulative impacts, and ESR for each scheme at the design stage of that scheme.**

The proponents of the interventions are instructed to conduct the IESR for all those projects listed under **Table 1** and ticked for IESR.

a. IESR Format

IESR is prepared at the project proposal stage to ensure that the project is also feasible under environmental and social criteria. Following is a description of the information required to be part of the IESR, followed by the standard format devised for conducting an IESR:

i. Project Description

Furnish sufficient details to give a brief but clear picture of the following, but not limited to:

- Type and Category of the project
- Objectives of the project
- Alternatives considered, and reasons for their rejection
- Location of project – physical description:
 - Use maps and photographs showing general location, specific location and project site layout,
 - Land uses on the site and surroundings,
 - Details of population centers and nearby dwellings, school, medical facility, religious facility, road access, rail, harbors, airports, navigable rivers, power sources and transmission, topographic and vegetation features of the site, and other sensitive land uses such as national parks, wild life reserves or archaeological sites
- Size or magnitude of the operation, including capital cost, and associated activities. Also, include proposed schedule for implementation.

⁵ IESR will be mandatory for all schemes that qualify for any of or all the three qualifying criterion.

- Details of restoration and rehabilitation plans (if required) at the end of the project life.
- Government approvals and leases (if required) of the project.
- Human and socio-economic description, including but not limited to the following:
 - Population and communities (numbers, occupation, composition, employment)
 - Industries, including known major development proposals
 - Infrastructure, including water supply, sewerage, flood control/drainage, etc.
 - Community institutions
 - Agricultural and mineral development
 - Quality of life values (including but not limited to):
 - Education
 - Access to electricity, gas, clean drinking water, credit, etc.
 - Distance to medical facility, school, etc.
 - Recreational resources and development
 - Archaeological or historic treasures

ii. Environmental Description

Furnish sufficient details to give a brief but clear picture of the existing environmental resources including but not limited to the following (to the extent applicable, including photographs where relevant):

- Physical resources:
 - Topography
 - Climate
 - Surface water availability and quality (none/seasonal/ perennial)
 - Groundwater depth and quality
- Ecological resources (existence and abundance):
 - Fisheries
 - Wildlife
 - Forests
 - Rare or endangered species

iii. Potential Environmental & Social Impacts and Mitigation Measures

This section of the form must describe all potential adverse environmental and social impacts the project may have. Where applicable, mitigation measures will also be recommended along with responsibilities and timelines.

Furnish sufficient details on the following potential environmental and social impacts (where applicable), including but not limited to the following:

- Impact on groundwater table
- Potential for large scale epidemics or poisoning
- Displacement and Resettlement
- Habitat fragmentation/ Geological alteration
- Water logging and salinity
- Social conflicts due to inequitable distribution, tail end shortages, or water allocations
- Impact on safe yield of subsurface water (especially in mountain areas)
- Estimated number of trees to be felled
- Waste water treatment and drainage
- Solid waste management

- Community consensus on project location
- Access to all contributing household
- Legal issues related to donated land/access
- Discrimination based on gender, caste, income, or tribe
- Community awareness on project cost, benefits, O&M plan and ESMF requirements
- Child labor
- Alteration, damage, or removal of any structure of religious or cultural significance
- Others

iv. Observations by PPAF Units

This section of the form will be completed by the relevant PPAF units, including the ESM unit and the operational unit(s) involved in the review and approval of the overall project.

Integrated Environmental and Social Review (IESR) Form

IESR Form	
<i>Please use the following format to complete the IESR. Do not limit the length of responses based on the space provided; please feel free to attach extra pages if additional space is required.</i>	
A	Project Description
Furnish sufficient details to give a brief but clear picture of the following:	
1	Type and Category of project
2	Objectives of project
3	Project alternatives
4	Location of project – physical description
5	Size/Magnitude of Project Capital cost Implementation schedule
6	Restoration and Rehabilitation plans
7	Government approvals and leases
8	Human and Socio-economic description: Population and communities Industries (existing and proposed) Infrastructure Community Institutions Agricultural and mineral development Quality of life values
B	Environmental Description
<i>Furnish sufficient information to give a brief but clear picture of the existing environmental resources include the following (to the extent applicable, including photographs where relevant):</i>	
9	Physical resources: Topography Climate Surface water availability and quality Groundwater depth and quality

10	Ecological resources (existence & abundance): Fisheries Wildlife Forests Rare or endangered species		
C Potential Environmental and Social Impacts and Mitigation Measures			
	Potential Impacts	Evaluator Response (Yes/No)	Mitigation Measures
11	Impact on groundwater table		
12	Potential for large scale epidemics or poisoning		
13	Displacement and Resettlement		
14	Habitat fragmentation/ Geological alteration		
15	Water logging and salinity		
16	Social conflicts due to inequitable distribution, tail end shortages, or water allocations		
17	Impact on safe yield of subsurface water (especially in mountain areas)		
18	Estimated number of trees to be felled		
19	Waste water treatment and drainage		
20	Solid waste management		
21	Community consensus on project location		
22	Access to all contributing household		
23	Legal issues related to donated land/access		
24	Discrimination based on gender, caste, income, or tribe		

25	Community awareness on project cost, benefits, O&M plan and ESMF requirements		
26	Child labor		
27	Alteration, damage, or removal of any structure of religious or cultural significance		
28	Others		
	Mitigation Measure	Responsibility	Timeline
29			
30			
31			
32			
33			
34			
35			
36			
D	Following sections to be completed by relevant PPAF units:		
	Observations by Operational Units		
37			
	Observations by ESM Unit		
38			

IV. Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA)

Both IEE and EIA are comprehensive legal environmental assessments made under the Pakistan Environment Protection Act (PEPA). These are mandatory for large and mega scale projects, which generally exceed the size of PPAF supported interventions. Schedule I & II (attached as Annexure 1a & 1b respectively) provides the qualifications of all such projects.

Both IEE and EIA are to be conducted prior to the project approval and financing. Until and unless the report of either of these is available, NO project can be executed whatsoever. If applicable, PPAF requires these to be carried out by an external party, other than the project proponent and PPAF. The proponent will follow the Pakistan Environmental Assessment Procedures, 1997 for undertaking IEE or EIA.

Other than DMPP and micro-hydels over 5MW, PPAF does not finance any project which is of the scale to qualify for an EIA, and will ensure that it does not do so either in the remaining project

period. However, in case, any integrated project budget estimates go beyond PKR 20 million, it will require undergoing an IEE. The IEE might recommend an EIA for the same. In such a situation, the proponent will make a written request to both the concerned Operational Unit, and the ESM Unit, to seek support to conduct this exercise.

V. Completion Certificate

Completion certificate, also known as Form B in ESMF, must be duly filled and signed at the completion and physical verification of any scheme. Completion of Form B confirms the incorporation of the required environmental and social criteria at the proposal and implementation stages of each scheme. Form B is to be filled before issuing the final disbursement to the community. When the field engineer along with the social mobilizer visits the scheme for final inspection and quality check that is when he/she needs to fill Form B in the presence of the Community Organization (CO), and hence, get it duly signed by the CO representative (preferably CO President or General Secretary).

A standard Form B - Completion Certificate has been proposed for all types of environmental and social assessments. The reporting person will report in 'Yes' or 'No' against the two indicators. In case of reporting 'No' the reporting person is instructed to report the reason of non-compliance.

Four signatories are required to sign the Completion Certificate. Three belong to the PO and project teams and one person from the community organization. The signatories from the PO are typically, (i) Social Organizer/Field Engineer (the person who filled and filed the Form A at the design stage); (ii) the area in-charge (Field Unit Manager, District Manager, etc.); (iii) and the Engineer heading the technical operations (Regional Engineer, Chief Engineer, etc.). It is important to note that verification by the community organization is required to confirm that the community understands the importance of environmental aspects and impacts and has verified that the same have been incorporated during the project implementation.

The standard Completion Certificate for all schemes is presented on the next page. This is to be used for all PPAF funded schemes except specific Microfinance and Social Sector Development. Form B Completion Certificate for schemes under Social Sector Development is attached as Annexure 4a.

Form B: Completion Certificate

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
Primary and secondary information has been generated and incorporated in the proposal to confirm that intervention qualifies the minimum criteria		
Design and implementation stage mitigation measures have been implemented		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implementation Report Checked By	Name: Designation:	Signature: Date:

Chapter 5

COSTS ASSOCIATED WITH ESMF MAINSTREAMING AND COMPLIANCE

I. Scope of Environmental and Social Management Costs

There are two types of costs associated with operationalizing and implementing ESMF:

a. ESMF Mainstreaming

These costs include ESMF dissemination and compliance monitoring by PPAF staff, including ESM Unit and other Operational Units. Other costs include associated mitigation costs such as design modifications as per ESMF guidelines. These will be borne by PPAF.

b. ESMF Compliance

These costs are typically those which are associated with PO compliance procedures, as in filling and filing Forms A and B, physical verification, quarterly and annual reporting, PO staff capacity buildings and audits for improved compliance. These costs will be borne by the partners.

II. Budget for ESMF Mainstreaming

Expense Head	Amount (PKR in million)
Environmental Mitigation Costs *	10
Environmental & Social Management Unit	66
Dissemination & Enforcement Strategy & Action Plan Budget	38
External Monitoring	24
Total	138

*Includes 4% environmental and social mitigation cost under PPAF III financing.

SECTION II

ESMF FORMS FOR PPAF INTERVENTIONS



Chapter 6

WATER RESOURCES DEVELOPMENT



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ESR for Tube Wells – Irrigation in Canal Irrigated Areas

Environmental and Social Guidelines

- (i) New tube wells for irrigation can cause reduction in the yield of existing tube wells in the area. This aspect can be best covered by having datasets on the sub surface hydrology of the region. In the absence of this information, it is proposed that “safe yield” information of existing tube wells located within 500 meters area should be collected to establish that enough subsurface water is available. In case existing tube wells are not running at the level of safe yield then for the proposed tube well feasibility needs to be carried out. Other standard recommended by Khyber Pakhtunkhwa EPA for tube wells in irrigated areas is 100m from any existing tube well.
- (ii) Tube wells are installed at suitable sites so that it is protected from possible source of contamination. KP-EPA recommends minimum safe distances from possible source of contamination i.e., 100 m from Garbage dumps/refuse piles, car repair or fuel (petrol) sales outlets, industrial operations/storage facilities etc., 50 m from Seepage pit or cesspool, 30 m from Pit toilets, animal pens, barns, fields fertilized with dung, 15 m from Septic tank, surface water body and 7 m from Drain, ditch, house.
- (iii) Over irrigation may lead to water logging and salinization of the soils.
- (iv) Quality of the ground water may be degraded with the intrusion of saline water due to over pumping.
- (v) Irrigation water with high Total Dissolved Solids (TDS) may lead to salinization of the soils. Acceptable limit is 1,500 ppm.
- (vi) Poor organizational arrangements and in-equitable distribution of additional water may lead to social conflicts.
- (vii) Mostly water shortages are found at the tail of watercourses or distributaries’ in the irrigated areas, where percolation of sweet water is generally low, and may lead to saline water intrusion. The number and size of tube wells to be installed in these areas need to be regularly monitored and installation of new tube wells is generally discouraged.
- (viii) Land required for Tube Well has to be donated or owned by the community. If not, it may cause negative social implications. In that case, an agreement must be signed so that no one is negatively impacted.
- (ix) Water is often a cause of conflict if not available to all who require. There needs to be a method to ensure that it is available to all through consultation and inclusion of all members.
- (x) Where Tube Well is located on donated land, a simple agreement is required to ensure that individual will not charge for provision of water to others and water right is provided to all.
- (xi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local

community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)

- (xii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Tube Wells – Irrigation in Canal Irrigated Areas

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has the demand for additional irrigation water in the area been determined through irrigation water availability and requirement gap?		
Have the stakeholders agreed upon proper organizational arrangements and a formula for the equitable distribution of the additional water, and has this been incorporated in the proposal?		
Are the trainings for community on irrigation efficiencies, water course maintenance, and proper drainage been included in the proposal?		
Do the test reports of the nearest tube well for Total Dissolved Solids (TDS) confirm that TDS are not more than 1,500 ppm?		
Has it been ensured that the proposed tube well is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed tube well is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Are there no apparent negative hygienic issues involved in constructing the Tube Well?		
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has it been ensured that no person due to gender, caste, class, religion, or		

tribe is excluded from the costs and benefits of the scheme?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the water testing at the borehole stage been carried out, and do the test results confirm that the TDS of the water is not more than 1,500 ppm? Attach the test report with the design report.	
Has the community been trained on irrigation efficiencies, watercourse maintenance and proper drainage?	
Has the site that was disturbed due to the digging of bore/pit and concrete mixing been restored?	
Has all the excess construction material been removed from the site?	
Has it been ensured that there is no stagnant water pond within 15m from the tube well?	
Has the tube well and its pedestal been sealed so that the impurities could not be mixed with the water?	
If the tube well brings additional area under cultivation (without increasing the canal command area), has it been ensured that the additional land is not owned by selected few in the village?	
Has it been ensured that the communities have devised an inclusive local conflict management system to deal with any potential conflicts arising	

from water distribution or usage?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Tube Wells – Drinking Water

Environmental and Social Guidelines

- (i) Serious depletion of groundwater aquifers is happening due to higher level of ground water abstractions in non-irrigated areas in general, and especially in following districts:

- Balochistan: Quetta, Pishin
- KP: Karak, Kohat, Bannu, and D. I. Khan

Installation of drinking water tube well in these districts needs special local level justification in the IESR.

- (ii) High prevalence of arsenic contamination has been reported in the following districts of Pakistan:

- Punjab: Multan, R. Y. Khan, Bahawalpur, D. G. Khan, Layyah, Muzaffargarh, Sargodha, Jhang, Gujrat, and Jehlum
- Sindh: Dadu, Khairpur, Nawabshah, and Tharparker
- KP: Mardan

These districts are on the negative list for the drinking water tube wells. For installing drinking water tube well in these districts under local level urgencies and demands produce following test reports:

- Arsenic ground water test report for the nearest tube well under NEQS guidelines
- Arsenic ground water test report from the bore hole dug for the proposed tube well under NEQS guidelines

- (iii) New tube wells for irrigation can cause reduction in the yield of existing tube wells in the area. This aspect can be best covered by having datasets on the sub surface hydrology of the region. In the absence of this information, it is proposed that “safe yield” information of existing tube wells located within 500m area should be collected to establish that enough subsurface water is available. In case of existing tube wells feasibility needs to be carried out. Other standard recommended by KP-EPA for tube wells in irrigated areas is 100m from any existing tube well.

- (iv) Contaminated water with coliforms, fecal coliforms, fluorides, and nitrate causes moderate to high significance health impacts to the community. Test reports are needed for these parameters for the nearby tube well, and at borehole stage for the proposed drinking water tube well.

- (v) Individual negative environmental impacts of drinking water tube wells are marginal on aquifers depletion; however, their cumulative impacts are moderate to high. New tube well can be constructed within a 100m from the existing tube well.

- (vi) Health impacts due to use of contaminated water for drinking purposes are moderate to

high for the community health.

- (vii) Land may be required that will depend on voluntary donation.
- (viii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan)
- (ix) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see Annexure 5a – Reference List A for list of Protected Areas of Pakistan).
- (x) Water tanks without practicing frequent cleaning may lead to bacterial contamination of water. Frequent cleaning is always advisable for the safe drinking water from the water tanks. Mostly tanks are cleaned every three months.

Form A: ESR for Tube Wells – Drinking Water

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the project is not located in a district that is under the threat of aquifers depletion due to the abstraction of water by existing tube wells and windmills?		
Is there no major safe drinking water source that can meet the population demands for safe drinking water supply that is functioning within 250 m diameter of the proposed location of the tube well?		
Is the tube well located 30 - 50 m away from the latrines and solid waste dumps?		
Do the test reports of the nearest tube well for coliform, fecal coliform, fluoride, arsenic and nitrate confirms that water quality in the area is not contaminated by any of the contaminants as per NEQS guidelines?		
Has it been ensured that the proposed tube well is not located within a Notified Archaeological Site or Monument?		

Has it been ensured that the proposed tube well is not located within a Protected Area?	
Is the proposed water tube well located 150 m away from a site that has historic, cultural, and/or ecological importance?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has it been ensured the scheme will not lead to a negative change in water quality and quantity for use by the community?	
Has the water quality test report of the nearest tube well been attached with the proposal?	
Has the water testing at the borehole stage been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.	
Have the water quality test reports (Chemical and Biological) been shared with the communities and that they have been explained a simplified description of the report?	
Has a minimum distance of 100 m between tube wells been maintained?	
Has the community been informed about the frequency of cleaning the tank? Mostly tanks are cleaned every three months.	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	

<p>Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?</p>	
<p>Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?</p>	
<p>Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?</p>	
<p>Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?</p>	

ESR for Tube Wells – Irrigation in Dry Areas

Environmental and Social Guidelines

- (i) New tube wells for irrigation can cause reduction in the yield of existing tube wells in the area, and can also draw down the ground water table. New tube well can be constructed within a 100m from the existing tube well.
- (ii) Over irrigation may lead to water logging and salinization of the soils.
- (iii) Quality of the ground water may be degraded with the intrusion of saline water due to over pumping.
- (iv) Irrigation water with high Total Dissolved Solids (TDS) may lead to salinization of the soils. Acceptable limit is 1,500 ppm.
- (v) Poor organizational arrangements and in-equitable distribution of additional water may lead to social conflicts.
- (vi) Mostly water shortages are found at the tail of watercourse or distributary in the irrigated areas.
- (vii) Installation of new tube wells can cause reduction in the yield of existing tube wells in the area. This aspect can be best covered by having datasets on the sub surface hydrology of the region. In the absence of this information, it is proposed that “safe yield” information of existing tube wells located within 500 meters area should be collected to establish the availability of the subsurface water. In case existing tube wells are not running at the level of safe yield then for the proposed tube well feasibility needs to be carried out. Other standard recommended by EPA KP for tube wells in irrigated areas is 100m from any existing tube well.
- (viii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (ix) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (xi) Land may be required that is the responsibility of the community to provide.

Form A: ESR for Tube Wells – Irrigation in Dry Areas

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the demand for additional irrigation water in the area been determined through irrigation water availability and requirement gap?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Have the stakeholders agreed upon proper organizational arrangements and a formula for the equitable distribution of the additional water, and has this been incorporated in the proposal?		
Has a minimum distance of 100 m between the tube wells been maintained?		
Do the test reports of the nearest tube well for Total Dissolved Solids (TDS) confirm that TDS are not more than 1,500 ppm?		
Has it been ensured that the proposed tube well is not located within a Notified Archaeological Site or Monument?		

Has it been ensured that the proposed tube well is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
If the tube well brings additional area under cultivation (without increasing the canal command area), has it been ensured that the additional land is not owned by selected few in the village?	
Has the water testing at the borehole stage been carried out and do the test results confirm that the TDS of the water is not more than 1,500 ppm? Attach test report with the design report.	
Has the community been trained on irrigation efficiencies, watercourse maintenance, and proper drainage?	
Has it been ensured that the improved income due to this project benefits all contributing households?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	

<p>Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?</p>	
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ESR for Hand Pumps

Environmental and Social Guidelines

- (i) Individual and cumulative impacts of ground water draw down for hand pumps are not significant in irrigated areas; however, cumulative impacts have moderate significance in desert and dry areas.
- (ii) High prevalence of arsenic contamination has been reported in the following districts of Pakistan:
 - Punjab: Multan, R.Y. Khan, Bahawalpur, D.G. Khan, Layyah, Muzaffargarh, Sargodha, Jhang, Gujrat, and Jehlum
 - Sindh: Dadu, Khairpur, Nawabshah, and Tharparker
 - KP: Mardan

These districts are on the negative list for deep drinking water extractions. For extracting drinking water in these districts under local level urgencies and demands produce following test reports:

 - Arsenic ground water test report for the nearest tube well under NEQS guidelines
 - Arsenic ground water test report from the bore hole dug for the proposed tube well under NEQS guidelines
- (iii) Shallow water table is commonly contaminated with coliforms, fecal coliforms, fluorides, arsenic and nitrate. These contaminants cause moderate to high significance health impacts on the communities. Test reports are needed for these parameters for the nearby hand pump at the proposal stage, and at borehole stage for the proposed hand pump.
- (iv) No conflict over the source of water
- (v) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Hand Pump

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has it been ensured that no major safe drinking water source that can meet the population demands for safe drinking water supply is functioning within 100 m diameter in the irrigated areas, and 250 m diameter in desert and dry areas of the proposed location of the new hand pump?		
Is the proposed hand pump located 50 m away from the latrines and solid waste dumps?		
Do the test reports of the nearest hand pump for coliform, fecal coliform, fluoride, arsenic and nitrate confirm that water quality in the area is not contaminated by any of the contaminants as per NEQS guidelines?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Is there no conflict over the source of water/land? Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the		

scheme and keeping ease for women and children in mind?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the water testing at the borehole stage been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic and fluoride? Attach test report with the design report.	
Have the water quality test reports (Chemical and Biological) been shared with the communities and that they have been explained a simplified description of the report?	
Has it been ensured the scheme will not lead to a negative change in water quality and quantity for use by the community?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Open/ Dug Well

Environmental and Social Guidelines

- (i) Individual and cumulative impacts of ground water draw down for hand pumps have limited significance in irrigated areas; however, cumulative impacts have moderate to high significance in desert and dry areas.
- (ii) High prevalence of arsenic contamination has been reported in the following districts of Pakistan:
 - Punjab: Multan, R.Y. Khan, Bahawalpur, D.G. Khan, Layyah, Muzaffargarh, Sargodha, Jhang, Gujrat, and Jehlum
 - Sindh: Dadu, Khairpur, Nawabshah, and Tharparker
 - KP: Mardan

These districts are on the negative list for the deep drinking water extractions. For extracting drinking water in these districts under local level urgencies and demands produce following test reports:

- Arsenic ground water test report for the nearest tube well under NEQS guidelines
 - Arsenic ground water test report from the bore hole dug for the proposed tube well under NEQS guidelines
- (i) Open wells are commonly contaminated with coliforms, fecal coliforms, fluorides, arsenic and nitrate. These contaminants cause moderate to high significance health impacts on the communities. **Test reports are needed for these parameters for the nearby open well at the proposal stage, and at bore hole stage for the proposed open well**
 - (ii) Open wells water mostly gets contaminated with dropping of surface contaminants in the well.
 - (iii) Most of the open wells are without Parapet wall. This can cause safety risks for the users.
 - (iv) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
 - (v) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
 - (vi) Land required for Open Well has to be donated or owned by the community. If not, it may cause negative social implications. In that case, an agreement must be signed so as

to ensure social harmony.

Form A: ESR for Open/ Dug Well

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has it been ensured that no major safe drinking water source that can meet the population demands for safe drinking water supply is functioning within 100 m diameter in the irrigated areas, and 250 m diameter in desert and dry areas of the proposed location of the open well?		
Is the proposed open well located 50 m away from the latrines and solid waste dumps?		
Do the test reports of the nearest open well for coliform, fecal coliform, fluoride, arsenic and nitrate confirm that water quality in the area is not contaminated by any of the contaminants as per NEQS guidelines?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Is the location of the well accessible to women?		
Has the method of drawing water been taken into consideration in the areas where water table is low (especially for women)?		

Has the land for open well been donated to the community? Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme and keeping ease for women and children in mind?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the water testing at the borehole stage been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.	
Have the water quality test reports (Chemical and Biological) been shared with the communities and that they have been explained a simplified description of the report?	
Has the well been appropriately covered to ensure that surface contaminants will not mix with the open well water?	
Does the open well have a parapet wall? And are the wells covered with an appropriate roofing structure to avoid contaminants in the well, and minimize accidents?	
Has it been ensure that method of drawing the water is not labour intensive?	
Has it been ensured the scheme will not lead to a negative change in water quality and quantity for use by the community?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility	

/utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Water Tank (OH, OG, UG)

Environmental and Social Guidelines

- (i) Water tanks without practicing frequent cleaning may lead to bacterial contamination of water. Frequent cleaning is always advisable for the safe drinking water from the water tanks. Mostly tanks are cleaned once every three months.
- (ii) High prevalence of arsenic contamination has been reported in the following districts of Pakistan:
 - Punjab: Multan, R.Y. Khan, Bahawalpur, D.G. Khan, Layyah, Muzaffargarh, Sargodha, Jhang, Gujrat, and Jehlum
 - Sindh: Dadu, Khairpur, Nawabshah, and Tharparker
 - KP: Mardan

These districts are on the negative list for the deep extraction of drinking water. For extracting drinking water in these districts under local level urgencies and demands produce following test reports:

 - Arsenic ground water test report for the nearest tube well under NEQS guidelines
 - Arsenic ground water test report from the bore hole dug for the proposed tube well under WHO guideline.
- (iii) It is always safe to test the intake water to these tanks for coliforms, fecal coliforms, fluorides, arsenic and nitrates as per NEQS guidelines. Water tanks are mostly located at a safe distance of 100m from the sources of surface contamination.
- (iv) If the water from the tank is to be used for drinking purposes, water test is recommended at the design stage, and once completed the test needs to be conducted every three months.
- (v) There should not be any conflict over the water and accessible to all those who need it.
- (vi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan)
- (vii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see Annexure 5a – Reference List A for list of Protected Areas of Pakistan).

Form A: ESR for Water Tank (OH, OG, UG)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Is the proposed water tank located 50m away from all the sources of surface contamination such as latrines and solid waste dumps?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Do the test reports of the intake water to the water tank for coliform, fecal coliform, fluoride, arsenic and nitrate confirms that water quality in the area is not contaminated by any of the contaminants as per NEQS guidelines?		
Has it been ensured that there is no conflict over the source of water?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme and keeping ease for women and children in mind?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		

Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the water testing of the intake water to the water tank been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.	
Have the water quality test reports (Chemical and Biological) been shared with the communities and that they have been explained a simplified description of the report (if used for drinking water)?	
Have the water tanks been adequately covered, and necessary manholes provided for cleaning and maintenance?	
Has the community been informed about the frequency of cleaning the tank? Mostly tanks are cleaned every three months.	
Has an agreement been signed ensuring accessibility and water rights to all contributing households?	
Has it been ensured that right on water use is founded on an equitable principle regardless of caste, creed, class, gender and religious differentiations?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the	

implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Drinking Water Supply Scheme (Springs/ Water Supply Extension/ Others)

Environmental and Social Guidelines

- (i) Before starting a project all the legal aspects must be cleared regarding NOC for the land used for the project
- (ii) Water needs to be tested for coliforms, fecal coliforms, arsenic, and nitrates at the design stage of the scheme as per NEQS. Attach the test report in the project file.
- (iii) Water quality reports must be checked before starting a drinking water supply project. If there is no other source and water is not clean enough according to WHO standards filtration plant must be installed and trainings provided for its proper maintenance to the concerned CO.
- (iv) Spring water source must be well protected to avoid any direct contact with bacterial contamination, reptiles and animals. Animals are always in such places drinking water and with their saliva comes many diseases that are transmitted all the way down to the tail and of course urine and faces.
- (v) It is also important not to divert all the water for consumption and leave enough overflows at or near the source for the sustainability of vital ecosystem.
- (vi) Poor organizational arrangements and in-equitable distribution of additional water may lead to social conflicts.
- (vii) Community members need to be educated about the harmful effects of polluting natural water sources. In many cases people with livestock seasonally moves towards pastures especially where fresh water is available in abundance. Grazing animals Cattle grazing increases nutrient concentrations and bacteria and protozoa levels. Sediment load and turbidity are increased, as well as water temperature. Dissolved oxygen levels often decline.
- (viii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (*see Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (ix) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (*see Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Drinking Water Supply Scheme (Springs/ Water Supply Extensions/ Others)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
Do the test reports of the nearest tube well for coliform, fecal coliform, fluoride, arsenic and nitrate confirms that water quality in the area is not		

contaminated by any of the contaminants as per NEQS guidelines?	
Has the water source been properly protected?	
Is the drinking water source located at a safe distance from the latrines and solid waste dumps?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the water quality test report of the nearest tube well been attached with the proposal?	
Have the community members been trained on the harmful effects of polluting the natural water sources?	
Has the community been trained on the O&M of the scheme?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Irrigation (Drip/ Sprinkler/ Syphon/ Pipe/ Lift)

Environmental and Social Guidelines

- (i) Irrigation water with high Total Dissolved Solids (TDS) may lead to salinity of soils. Acceptable limit is 1,500 ppm ONLY for tube well based irrigation.
- (ii) Over irrigation may lead to water logging and salinity of the soils.
- (iii) In the agricultural lands (mostly in irrigated areas) there are small precincts (katcha areas, as per defined by the land revenue department) which are not cultivated. These precincts serve an important function of bio-pest reserves at the farm level. With the increase of water availability, there is a threat that the farmers will also start cultivation on these precincts. Cultivation of these precincts will lead to loss of an important bio-pest management function made available by the nature.
- (iv) Water is often a cause of conflict if not available to all who require. There needs to be a method to ensure that it is available to all through consultation and inclusion of all members.
- (v) There should not be any conflict over land use, and the community must agree on the space utilized by the scheme. Secure community consensus through an agreement on Sprinkler/ Drip/ Syphon/ Pipe irrigation route, point of diversion, water distribution system, and cost of the project.
- (vi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Piped Lining:

- (viii) All water pipelines must be buried underground, in order to ensure the safety of the equipment, and to avoid any accidents.
- (ix) Backfilling must be carefully done. Fine clay or sand cushions are recommended around the pipe during backfilling.

Sprinkler/Drip:

- (viii) The operator/ technician in charge of maintenance of the scheme/ equipment should be formally trained through a dedicated session by the installing company. And the SOPs should be available with the CO, in Urdu.

Form A: ESR for Irrigation (Drip/ Sprinkler/ Syphon/ Pipe/ Lift)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
Has the demand for additional irrigation water in the area been determined		

through irrigation water availability and requirement gap?	
If the source is tube well, do the test reports of the nearest tube well for Total Dissolved Solids (TDS) confirm that TDS are not more than 1,500 ppm?	
Have the stakeholders agreed upon proper organizational arrangements and a formula for the equitable distribution of the additional water, and has this been incorporated in the proposal?	
Has it been ensured that there will be no increase in the total command area?	
Has it been ensured that no small precinct (katcha area, as per defined by land revenue department) will be brought under cultivation due to increase in water supply?	
Has an agreement been signed amongst the communities/beneficiaries on the allocated space utilization for the scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has there been a formula set by the communities for sharing increased water available?	
Has it been ensured that the scheme does not divide/ bifurcate/ overexploit/ hinder access to any common property resources (e.g. pastures, lakes, etc.)?	
Has the community been trained on irrigation efficiencies, watercourse maintenance and proper drainage?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility	

(communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	
Piped Lining	
Has it been ensured that the pipeline has been buried in the ground?	
Has the backfilling been done carefully?	
Sprinkler/Drip	
Has the operator/ technician in charge of maintenance been formally trained by the installing company?	
Are the SOPs available with the CO, in Urdu?	
Have the communities been educated about the proper use and maintenance of the scheme/equipment?	

ESR for Watercourse

Environmental and Social Guidelines

- (i) Watercourses are lined for decreasing the water losses occur at the watercourse level and improving the availability at the tail. Command areas of a watercourse are set by the Irrigation authorities. In most of the cases lining is not meant for increasing the total command area of the watercourse, unless an NOC has been obtained in this regard from the Irrigation authorities.
- (ii) In the agricultural lands (mostly in irrigated areas) there are small precincts (katcha areas, as per defined by land revenue department) which are not cultivated. These precincts serve an important function of bio-pest reserves at the farm level. With the increase of water availability due to lining, there is a threat that the farmers will also start cultivation on these precincts. Cultivation of these precincts will lead to loss of an important bio-pest management function made available by the nature.

No obstruction/conflict on route of watercourse since it often passes through large area and should benefit to all.

- (iii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (iv) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Watercourse

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has it been ensured that there will be no increase in the total command area?	
Has it been ensured that no small precinct (katcha area, as per defined by land revenue department) will be brought under cultivation due to increase in water supply?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the	

scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the community consensus been secured on water course route, point of diversion, water distribution system, and cost of the project?	
Has there been a formula set by the communities for sharing increased water available?	
Has it been ensured that the scheme does not divide/ bifurcate/ overexploit /hinder access to any common property resources (e.g. pastures, lakes, etc.)?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Water Channel – Mountain Areas

Environmental and Social Guidelines

- (i) Water channels, if not properly constructed, cause upstream and downstream soil erosions. During construction special care needs to be taken to avoid all the reasons of community disturbances attached to falling of debris, alternate route for existing channel, and blasting – if involved.
- (ii) During operations leakages from water channels lead to landslides that may cause physical damage and human loss in the downstream communities. Due to this reason polyethylene sheets are laid on the bed of the channel in loose soil areas, and a mixture of clay, earth, and grass is applied on the walls of the channel. In loose soil areas trapezoid channels are constructed, in semi-loose areas semicircular channels are constructed, and in rocky areas rectangular channels are constructed to avoid seepage and leakage. Further to these mitigations, in loose and semi-loose soil areas a berm of 3-5 feet width is maintained, whereas, in rocky areas a berm of 2 feet width is maintained.
- (iii) Water channels divert water from upstream main water source, and distribute water to the downstream farmers along the alignment. Diversion and distribution of water is a serious issue among the farmers community. Intensive consultations are conducted with the farmer communities for the selection of point and source of diversion, alignment of the channel, water distribution system along the channel, construction design and cost, etc.

No obstruction/conflict on route of the channel since it often passes through a large area and should benefit to all.

- (iv) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (v) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (vi) In most of the cases trees are cut to clear the right of way. Simple compensation for tree cutting is that plant two trees for every tree cut.
- (vii) During the construction of the water channels in the mountain areas, the debris due to cutting of rocks can damage the agricultural or rangelands. Therefore, communities should determine the compensation for the affectees during the construction of the water channel, and compensated accordingly.

Form A: ESR for Water Channel – Mountain Areas

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Is there a consensus in the community on channel design, route, water distribution, and cost?		
Is the channel lined with a mixture of clay, earth, and local grass, and in case of loose soils polyethylene sheets are laid on the bed, berms of 3 to 5 feet width in loose and semi-loose soils, and 2 feet width in rocky areas constructed along the channel?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		

Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has it been ensured that the affectees are compensated for any damage to their property during the construction of the water channel?	
Have proper arrangements been made for the safety of the community during the construction, from hazards such as falling of debris, alternate route for existing channel, and blasting?	
Has the safe disposal of solid waste been ensured?	
Has the community consensus been secured on channel route, point of diversion, water distribution system, and cost of the project?	
Has the cutting of trees been minimized? And have two trees been planted for every tree cut along the channel?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project	

files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Rain Water Harvesting Pond

Environmental and Social Guidelines

- (i) Rainwater harvesting ponds commonly remain under the threat of contamination by human pathogens, animal manure, agricultural chemicals, and algae growth. These ponds, if not properly managed, serve as mosquitoes breeding areas. These contaminants cause moderate to high significance health impacts on the communities.
- (ii) Community is mostly trained and educated about the ways and means of ensuring that the pond remains safe from the intrusion of surface contaminants.
- (iii) Physical features are added in the design to ensure that surface contaminants shall not mix with the pond water.
- (iv) If the water is to be used for drinking purposes, **three monthly test reports are needed for coliforms, fecal coliforms, and nitrates at the operational stage of the pond.**
- (v) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Rain Water Harvesting Ponds

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Is the proposed rain water harvesting pond located 50m away from the latrines and solid waste dumps, and agricultural fields and 100m away if used for drinking water?		
If the water is to be used for drinking purposes, has the water been tested for coliforms, nitrates, arsenic etc. as per NEQS guidelines?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		

Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
<p>Mandatory at Design and Implementation Stages</p>	
Has a pond management plan been prepared and has the community been trained?	
Has the pond been appropriately covered to ensure that the surface contaminants will not mix with the pond water?	
Has water agitation been ensured to avoid mosquito breeding e.g. rowing, boating etc.?	
And has a timeframe been set within which water should be used?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Karezes

Environmental and Social Guidelines

- (i) Karezes divert water directly from upstream sources and transfer water to the users through a long tunnel. During water conveyance water is exposed to natural (fluoride, arsenic etc.) and human (coliform, fecal coliform, and nitrate) contaminants. Due to these conditions, it is always safe to test the Karezes water for the above stated contaminants before use for human consumption.
- (ii) During Karezes construction and maintenance sometimes blasting is conducted to break the hard rock. Blasting with poor safety practices can lead to injuries and in some cases loss of life. It is instructed that blasting should be conducted only after applying all the safety precautions promoted for safe blasting.
- (iii) Land subsidence is a threat attached to karezes. For new Karezes land subsidence issue is handled at the design level, and for existing Karezes this issue is managed through proper maintenance and reinforcement.
- (iv) Karezes need periodic maintenance and cleaning along with water testing for Karezes used solely for drinking purpose. It is advised to the proponent of the project to devise maintenance, cleaning, and water testing schedules on the basis of on ground conditions.
- (v) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Karezes

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Have the upstream farmers been consulted in the design and execution of the scheme?	
If the water is to be used for drinking purposes, does the water test report for coliform, fecal coliform, fluoride, arsenic, and nitrate confirm that the water is not contaminated by any of the contaminants as per NEQS guidelines? Attach test report with the design report.	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	

Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Have safety measures been adopted for blasting?	
Have schedules been prepared for maintenance, cleaning, and water testing for the operational stage, and has the community been trained for the execution of activities as per schedules?	
Has it been ensured that the scheme does not divide/ bifurcate/ overexploit/ hinder access to any common property resources (e.g. pastures, lakes, etc.)?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Check Dam

Environmental and Social Guidelines

- (i) Check dams have limited environmental impacts. It is suggested that wherever possible use local materials to avoid the transportation of material and ensure that the structure design ensures the safety of people in case of break down.
- (ii) It should not have any negative social impact through its location or ownership of land.
- (iii) Maximum permissible height for dams constructed under PPAF funding is 10 Meter
- (iv) Location of check dams need to be carefully selected, keeping in mind habitat destruction, downstream water flows requirements, and number of check dams on the same stream.
- (v) The location must also keep in consideration the demands and effects on the downstream communities. Their consent to the location is also desirable.
- (vi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Check Dam

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Is the height of the dam less than or equal to 10 m?		
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Have the downstream impacts of the location of the dam been considered and discussed with the local communities?		
Has it been ensured that the impacts on the habitat integrity are minimal?		
Has it been ensured that by constructing the dam at the suggested location, will not hamper the downstream flows, and not harm the downstream communities in any way?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been		

ensured in the project files of PO and the community?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has it been ensured that location and structure designs have incorporated safety aspects?	
Has a disaster preparedness & emergency management plan been prepared?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Delay Action Dam / Mini Dam

Environmental and Social Guidelines

- (i) Delay action dams are constructed to recharge the groundwater aquifer and irrigation purposes. Maximum permissible height for dams constructed under PPAF funding is 10 Meter
- (ii) The catchment area and watershed of the Dam must be calculated using the local knowledge. And a corresponding watershed management plan should be prepared at the design stage.
- (iii) Delay action dams may cause erosion, and landslides. Mostly for the designing of delay action dams, information for geology, hydrology, topography and soil erosion profile of the area is generated and analyzed. If these potential risks are within manageable limits then mostly mitigated by incorporating measures like slope stabilization, and watershed management.
- (iv) Delay action dams should not cause large displacement of people and inundation of cultivable land and orchards. Small population, if displaced, then should be properly compensated under market or kind compensation mechanisms.
- (v) Intensive community consultations are needed for the site selection. The proponent should identify more than one alternative site. Comparative analyses of the sites are presented to the community and under open discussion consensus is achieved.
- (vi) Delay action dams may cause obstruction to the movement of commuting people and wild life. Alternate pathways and routes are provided in the design to mitigate such impacts.
- (vii) Being relatively large structure, delay action dams always remain under the threat of wash away under heavy floods and torrential rains, blockage due to the movement of large rocks, porous berms due to increase in mice population, poor maintenance, and fast silt accumulation. These risks are mitigated by providing right capacity spillways, proper site selection, periodic removal of blockage essentially after torrential rains, proper maintenance of berms, and watershed management.
- (viii) Communities in the surroundings and especially downstream communities are informed about the risks attached with the breakdown of the dam and actions to be taken by the community in case of break down.
- (ix) Usually dams have specific impacts on downstream communities by changing the traditional flow pattern which affects the associated benefits of downstream communities. Water distribution management plan is developed at early stages of planning and designing. Furthermore, involvement of community at early stages is also needed to overcome the conflicts with communities at subsequent stages.
- (x) Land may be required that is the responsibility of the community to provide.
- (xi) Location of delay action dams need to be carefully selected, keeping in mind habitat destruction, downstream water flows requirements, and number of check dams on the

same stream.

- (xii) The location must also keep in consideration the demands and effects on the downstream communities. Their consent to the location is also desirable.
- (xiii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan)
- (xiv) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see Annexure 5a – Reference List A for list of Protected Areas of Pakistan).

Form A: ESR for Delay Action Dam / Mini Dam

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Is the height of the dam less than or equal to 10 m?		
Has it been ensured that the dam will not cause large displacement of population?		
Is the catchment map and watershed management plan available?		
Have the downstream impacts of the location of the dam been considered and discussed with the local communities?		
Has it been ensured that the impacts on the habitat integrity are minimal?		
Has it been ensured that by constructing the dam at the suggested location, will not hamper the downstream flows, and not harm the downstream communities in any way?		
Has it been ensured that the dam does not inundate large cultivable land, orchards, and culturally and environmentally important sites?		

Has it been ensured that no large settlement is located in the immediate vicinity, especially in case of break down and higher discharges from the spillways no downstream community will be inundated or affected?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has a geological, hydrological topography, and soil erosion profile of the area been prepared? And has it been confirmed that technically a safe dam can be constructed on the site, capable of handling the highest known flood, with a safety margin of 1.5?	
Have alternate site location, dam height (max 10m permissible by PPAF), and risk management technical analysis for the project and report conclusions been conducted?	
Has verifiable information about the consultations conducted for the project been generated and incorporated? And consensus and terms and conditions raised by the community for the project been reported?	
Has a proper market mechanism for the compensation of displacement of people, acquisition of land, and other assets been adopted?	
Has local labour and construction material been used wherever possible?	
Has a Disaster Management Plan been prepared?	

Have the communities been informed about the risks attached to the break down and over flooding during floods and torrential rains? Have the communities been trained for the possible actions to be taken at the time of occurrence of such accident/event?	
Have slope stabilization and watershed measures been implemented to control soil erosion and slope stabilization, as a part of the watershed management plan?	
Have appropriate warning signs been displayed conspicuously before the onset of construction work for pedestrian and vehicle traffic to know that construction machinery is in operation? And is all traffic stopped at a safe distance during any blasting operation?	
Have alternate pathways and routes been constructed for commuters and wild life if dam and reservoir are obstructing the original pathways and routes?	
Has an effective water management plan been developed and implementation ensured for water releases from the dam to serve the downstream communities?	
Has a maintenance manual been prepared and communities trained accordingly for its implementation?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Land Leveling

Environmental and Social Guidelines

- (i) Land leveling of agricultural farms is conducted for uniform spread of water throughout the farm. Land leveling, if not properly executed, then it causes increased soil run-off that leads to loss of topsoil. Topsoil loss causes the decrease in the crop yield.
- (ii) Land leveling in the mountainous areas along with soil run-off and top soil loss can also lead to soil erosion due to the application of heavy equipment.
- (iii) Appropriate safety standards must be followed in case of use of heavy machinery and blasting.
- (iv) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (v) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Land Leveling

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and</i>		

demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Have the farmers been educated about the relationship between topsoil loss and decrease in crop yield? And have the farmers been trained on effective methods of land leveling?

Has it been ensured that the light equipment is used for land leveling along with slope stabilization measure in mountainous areas?

Have appropriate safety standards been followed in case of use of machinery and blasting?

Has it been ensured that the scheme does not divide/ bifurcate/ overexploit/ hinder access to any common property resources (e.g. pastures, lakes, etc.)?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?

Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?

ESR for Pipe Lining (PVC/ RCC) for DWSS/ Irrigation

Environmental and Social Guidelines

- (i) All water pipelines must be buried underground, in order to ensure the safety of the equipment, and to avoid any accidents.
- (ii) Backfilling must be carefully done. Fine clay or sand cushions are recommended around the pipe during backfilling.
- (iii) If the water is to be used for **drinking purposes** (open well, tube well for drinking purpose), **then the water needs to be tested for coliforms, fecal coliforms, arsenic, and nitrates at the design stage of the scheme as per NEQS.**
- (iv) If the water is to be used for **irrigation purposes** (Tube wells), **then the water needs to be tested for Total Dissolved Solids (TDS), which may lead to salinization of the soils. Acceptable limit is 1,500 ppm.**
- (v) Pipes should be laid at a safe distance from the latrines and solid waste dumps.
- (vi) Cleaning of the pipes should be done periodically to ensure proper working and maintenance of the scheme.
- (vii) An O&M plan related to the scheme should be developed to ensure no leakages or reconstruction, and shared with the local communities (in addition to the community institution) and all contributing households.
- (viii) Water is often a cause of conflict if not available to all who require. There needs to be a method to ensure that it is available to all through consultation and inclusion of all members.
- (ix) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (x) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (xi) Minimize tree cutting and plant two trees for every tree cut along the channel.

Form A: ESR for Pipe Lining (PVC/ RCC) for DWSS/Irrigation

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
If the water is to be used for drinking purposes, has the water been tested for coliforms, nitrates, arsenic etc. as per NEQS guidelines?	
If the source is tube well, do the test reports of the nearest tube well for Total Dissolved Solids (TDS) confirm that TDS are not more than 1,500 ppm?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	

Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has community consensus been secured on pipe lining design, route, water distribution and cost?	
Has it been ensured that the pipeline has been buried in the ground?	
Has the backfilling been done carefully?	
Has the community been trained on the O&M of the scheme?	
Has it been ensured that the communities have devised an inclusive local conflict management system to deal with any potential conflicts arising from water distribution or usage?	
Have the water quality test reports (Chemical and Biological) been shared with the communities and that they have been explained a simplified description of the report?	
Has it been ensured the scheme will not lead to a negative change in water quality and quantity for use by the community?	
Has the periodic cleaning of the pipes been ensured?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the	

implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

Chapter 7

TECHNOLOGICAL INNOVATION



Specific Intervention	Pg. #
Desalination Plant (for ≤ 100 Households)	95
Biogas Plant (for ≤ 100 Households)	99
Solar Energy (for ≤ 100 Households)	103
Windmill	107
Micro-hydro (Less than 1 MW)	112

ESR for Desalination Plant

Environmental and Social Guidelines

- (i) If the desalination tank is properly cleaned and maintained, there is rare possibility of water contamination under desalination process. Its poor efficiency can lead to higher value for TDS, but WHO has dropped this indicator from the drinking water indicators. If the desalination plant is used for drinking purpose then after the completion of the scheme testing of discharge water for coliform, fecal coliform, and nitrate is advised to be checked against the NEQS.
- (ii) Extracted salt can lead to local level soil contamination. Salt should be properly buried or disposed of by other alternative ways.
- (iii) Periodic cleaning of raw water tank is required to ensure that salt deposition and bacterial growth is not happening.
- (iv) There should not be any conflict over land. It should be donated with the signing of an agreement.
- (v) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Desalination Plant

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Is the desalination plant located about 50 m away from latrines and solid waste dumps?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the</i>	

proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Has the water testing of the discharged water been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.

Has the operator/technician in charge of maintenance been formally trained by the installing company?

Are the standard operating procedures (SOPs) available with the COs in Urdu?

Have the communities been educated about the proper use, operation and maintenance of the desalination plant?

Has the extracted salt been disposed of by burying it away from agricultural land? Alternatively, salts can be disposed of in the dumping sites if available.

Have the manuals and schedules for the cleaning of water tank, desalination water, and storage tank been prepared? And has the community been trained on the cleaning of tanks?

Has the land been donated and proper agreement signed to ensure rights and accessibility?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?

Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	
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ESR for Biogas Plant

Environmental and Social Guidelines

- (i) Biogas plant is an environmentally friendly product. It does two functions; (a) Supply clean energy at the local level, and (b) generate bio-fertilizer (slurry) as a by-product. Biogas plant operations are relatively complex as compared to other PPAF CPI's. If the plant is operated under prescribed manual then they normally do not cause environmental impacts.
- (ii) Seepage from biogas well can cause groundwater contamination. Seepage control measures are incorporated in the design to mitigate this impact.
- (iii) Population safety from the emissions of the plant is normally achieved by locating plant at a safe distance from the villages.
- (iv) H₂S generation can cause serious environmental impacts in the form of community health. This issue is normally mitigated by fixing a suction fan on the top of the stake. Fan will suck the gas and disperse in the air.
- (v) There should not be any conflict over distribution and benefits should be distributed equitably.
- (vi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Biogas Plant

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the biogas plant is located at a distance of 20m from residences, and sources of water supply if privately owned, and 200m away in case of communal ownership?	
Has it been ensured that there is no conflict over distribution?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	

Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has closed biogas well been designed and constructed?	
Has it been ensured that sludge conveyance to the well is proper and 100% sludge is transferred to the well?	
Have proper arrangements been installed for the monitoring of H ₂ S emissions as per the design of the biogas plant?	
Has a comprehensive operating manual for the plant been prepared? Does the manual provide plant monitoring arrangements, frequency of monitoring for environmental indicators, and cover major environmental concerns such as H ₂ S emissions controls, safety measures for cleaning the well, solid waste management, and seepage controls?	
Has proper signage (display of current voltage/no smoking/ other precautionary signs) been displayed in the control room?	
Has the operator/technician in charge of maintenance been formally trained by the installing company?	
Are the standard operating procedures (SOPs) available with the COs in Urdu?	
Has the community been trained about the operations of the plant? Does the training include impacts of seepage to the groundwater, hazards of H ₂ S gas, and safety measures for handling H ₂ S gas emissions?	
Have appropriate measures been taken to ensure equitable distribution of benefits?	
Has it been ensured that the supply of animal waste is equitably shared amongst all beneficiaries (in case of a communal biogas plant)?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or	

mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Solar Energy

Environmental and Social Guidelines

- (i) Solar energy is environmentally friendly product; as such it does not cause any negative environmental impacts during installation.
- (ii) Batteries attached to Photovoltaic cells contain potentially toxic substances. It is preferable to sell the expired batteries to the recycling workshops. Practice of reconstruction of batteries is common in Pakistan
- (iii) Dry cell batteries are promoted to be used for solar powered appliances especially solar street lights, solar water pumps etc.
- (iv) Control room for the batteries should be designed in a way to maximize ventilation. It should have proper signage, including display of current voltage, no smoking and other related precautions.
- (v) The batteries should be placed on an insulated platform, in order to avoid earthing of the batteries.
- (vi) Wiring from the control room to the appliances (whether household or public utilities) must be laid keeping in mind precautions to general public especially children. Wiring should either be above 5 ft., or laid underground, and should be covered.
- (vii) The operator/technician in charge of maintenance of the solar powered system should be formally trained through a dedicated session by the installing company. And the SOPs available with the CO, in Urdu.
- (viii) The project proposal must have an O & M plan for the intervention, especially a procedure for maintenance and replacement of batteries. This plan should be signed by the CO/VO representatives, and the PO responsible.
- (ix) Location of solar street lights/solar pumps should be decided with the community's consent.
- (x) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan)
- (xi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see Annexure 5a – Reference List A for list of Protected Areas of Pakistan).

Form A: ESR for Solar Energy

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has an O&M plan for the maintenance and replacement of batteries been included in the proposal? If yes, then has the plan been signed by the CO/VO representatives, and the PO?	
Has the location of the solar street lights/solar pump been decided with the consent of the community?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	

Is there any group of people who will become vulnerable/marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
<p>Mandatory at Design and Implementation Stages</p>	
Has it been ensured that the expired batteries are sold to the recycling workshops, and that the expired batteries should not fall into the hands of children?	
Has the control room been designed to maximize ventilation?	
Has proper signage (display of current voltage/no smoking/other precautionary signs) been displayed in the control room?	
Have the batteries been placed on an insulated platform to avoid earthing of the batteries?	
Has it been ensured that the wiring is laid either above 5ft, underground, or covered properly?	
Has the operator/technician in charge of maintenance been formally trained by the installing company?	
Are the standard operating procedures (SOPs) available with the CO, in Urdu?	
Have the communities been educated about the proper use and maintenance of solar energy plants such as regular cleaning of photovoltaic cells?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.),	

benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Windmill (Water Pumps)

Environmental and Social Guidelines

(xii) Serious depletion of ground water aquifers is happening due to higher level of ground water abstractions in non-irrigated areas in general, and especially in following districts:

- Balochistan: Quetta, Pishin
- KP: Karak, Kohat, Bannu, and D.I.Khan

Installation of windmill in these districts needs special local level justification in the IESR.

(xiii) Contaminated water with coliforms, fecal coliforms, fluorides, and nitrate causes moderate to high significance health impacts to the community. Test reports are needed for these parameters for the nearby tube well, and at bore hole stage for the proposed windmill.

(xiv) High prevalence of arsenic contamination has been reported in the following districts of Pakistan:

- Punjab: Multan, R.Y. Khan, Bahawalpur, D.G. Khan, Layyah, Muzaffargarh, Sargodha, Jhang, Gujrat, and Jehlum
- Sindh: Dadu, Khairpur, Nawabshah, and Tharparker
- KP: Mardan

These districts are on the negative list for the deep drinking water extractions. For installing windmill in these districts under local level urgencies and demands produce following test reports:

- Arsenic ground water test report for the nearest tube well under NEQS guidelines
- Arsenic ground water test report from the bore hole dug for the proposed windmill under NEQS guidelines

(xv) New tube wells for irrigation can cause reduction in the yield of existing tube wells in the area. This aspect can be best covered by having datasets on the sub surface hydrology of the region. In the absence of this information, "safe yield" information of existing tube wells located within 500 m area should be collected to establish that enough subsurface water is available. In case of existing tubewells feasibility needs to be carried out. Other standard recommended by EPA KP for tube wells in irrigated areas is 100m from any existing tube well.

(xvi) Individual negative environmental impacts of windmill are marginal on aquifers depletion; however, their cumulative impacts along with other tube wells in the area are moderate to high.

(xvii) Health impacts due to use of contaminated water for drinking purposes are moderate to high for the community health.

- (xviii) Water tanks without practicing frequent cleaning may lead to bacterial contamination of water. Frequent cleaning is always advisable for the safe drinking water from the water tanks. Mostly tanks are cleaned every three months.
- (xix) Identify more than one alternative site for installation of windmill and involve the community for suitable site selection.
- (xx) The windmill should be 100m away from nearest existing tube well.
- (xxi) Construction site should be properly fenced and periodically (preferably twice a day) sprinkled with water to suppress dust emission.
- (xxii) Land should be available, which is the responsibility of the community to provide.
- (xxiii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (xxiv) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Windmills (Water Pumps)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the project is not located in a district that is under the threat of aquifers depletion due to the abstraction of water by existing tube wells and windmills?		
Has it been ensured that there is no major safe drinking water source that can meet the population demands for safe drinking water supply functioning within 250 m diameter of the proposed location of the tube well?		
Is the proposed windmill located 100m away from nearest existing tube well?		
Is the proposed tube well located 30 - 50m away from the latrines and solid waste dumps?		
Do the test reports of the nearest tube well for coliform, fecal coliform, fluoride, arsenic and nitrate confirms that water quality in the area is not contaminated by any of the contaminants as per NEQS guidelines?		
Has it been ensured that the proposed scheme is not located within a Notified		

Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has a water quality test report of the nearest tube well been attached with the proposal?	
Has the water testing at the borehole stage been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.	
Has the operator/technician in charge of maintenance been formally trained by the installing company?	
Are the standard operating procedures (SOPs) available with the COs in Urdu?	
Have the communities been educated about the proper use, operation and maintenance of windmill and the pump?	
Has the community been informed that the water tank needs to be cleaned every three months?	
Has proper maintenance of the windmill been ensured to avoid any risk to the community?	
Have towers and blades been transported and installed with due regard to third party and occupation safety?	
Has the installation of windmills been avoided in the areas of frequent bird	

movements?	
Have relevant engineering codes been followed for the erection of windmill towers, and located 30-100m, as per the height of the tower, away from the community?	
Has the construction site been fenced and sprinkled with water twice a day for dust suppression?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Micro-Hydro (Less than 1 MW)

Environmental and Social Guidelines

- (i) Micro hydro should only be implemented with community consultations and consensus to avoid social conflicts.
- (ii) Micro hydro should not cause changes in the downstream flows, existing irrigation system and ensure that downstream users and fish life is not disturbed.
- (iii) Soil erosion mitigation measures are mostly needed for most of the slopes linked to micro hydro.
- (iv) Construction waste is normally left at the site. Construction waste should be properly disposed after the completion.
- (v) Involve the community at planning stage to avoid any social conflict at subsequent stages.
- (vi) Land maybe required and it is the responsibility of the community to arrange land with signing an agreement for donated land to avoid conflict.
- (vii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (viii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Micro-Hydro (Less than 1 MW)

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that no change will occur in the downstream water flows and uses?	
Has it been ensured that the fish life in the area will not be disturbed?	
Has it been ensured that no serious soil erosion risks are attached to the project?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion,	

or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has the empirical information incorporated in the design and completion reports to confirm that the project will not change the downstream flows, irrigation system, and water uses will not be affected by the project?	
Has the soil erosion been mitigated by constructing check dams, earth retention walls, and other stabilization measures, such as stone pitching?	
Has smooth sediment flows ensured by design, implementation, and operations?	
Has the construction waste been safely disposed of?	
Has the community been involved at planning stage to avoid any social conflict at subsequent stages?	
Has the tail water been disposed of in hydraulically safe manner?	
Has the occupational health of the workers and safety of surrounding population been ensured during construction and operation?	
Has the operator/technician in charge of maintenance been formally trained by the installing company?	
Are the standard operating procedures (SOPs) available with the COs in Urdu?	
Have the communities been educated about the proper use, operation and maintenance of the micro-hydro and the pump?	
Are the first aid guidelines against electric shock been conspicuously displayed and first aid kit made available in the power house?	
Has proper signage (display of current voltage/no smoking/ other precautionary signs) been displayed in the control room?	

<p>Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?</p>	
<p>Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?</p>	
<p>Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?</p>	
<p>Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?</p>	
<p>Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?</p>	

Chapter 8

ACCESS/CIRCULATION



	Specific Intervention	Pg. #
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ESR for Culverts

Environmental and Social Guidelines

- (i) Under size culverts can cause local level flooding, and erosion of embankments. Therefore, appropriately sized culverts should be designed.
- (ii) Construction waste is normally left at the site. Construction waste should be properly disposed after the completion.
- (iii) Construction site should be periodically (preferably twice a day) sprinkled with water to suppress dust emission.
- (iv) Land must be donated with agreement signed ensuring rights.
- (v) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Culverts

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that there are no negative impacts downstream for the flow of water such as erosion, low level flooding, etc.?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the</i>	

proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Has the waste construction material been disposed of properly?

Has the dust been suppressed during construction by sprinkling water at least twice a day?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?

Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?

ESR for Street Surfacing/Lining

Environmental and Social Guidelines

- (i) Dust emission during street surfacing/lining is the most common environmental issue. Water spray on the construction site and alternate route for the commuters is the easiest method for controlling dust. Along with this periodic compaction of the soil at the street under surfacing/lining and alternate route.
- (ii) Construction waste is normally left at the site. Construction waste should be properly disposed after the completion.
- (iii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (iv) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Street Surfacing/Lining

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and</i>		

demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory Design and Implementation Stages

Has the contractor been instructed and provided with the schedule of water spray and compaction of both streets under surfacing/lining and alternate route?	
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Has an alternative route been provided for commuters during street surfacing/lining work?	
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Has the waste construction material been disposed of properly?	
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Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
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Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
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Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
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Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
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Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	
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ESR for Pipe Lining (PVC/ RCC)

Environmental and Social Guidelines

- (i) All water pipelines must be buried underground, in order to ensure the safety of the equipment, and to avoid any accidents.
- (ii) Backfilling must be carefully done. Fine clay or sand cushions are recommended around the pipe during backfilling.
- (iii) Pipes should be laid at a safe distance from the latrines and solid waste dumps.
- (iv) Cleaning of the pipes should be done periodically to ensure proper working and maintenance of the scheme.
- (v) An O&M plan related to the scheme should be developed to ensure no leakages or reconstruction, and shared with the local communities (in addition to the community institution) and all contributing households.
- (vi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (viii) Minimize tree cutting and plant two trees for every tree cut along the channel.

Form A: ESR for Pipe Lining (PVC/ RCC)

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and</i>	

demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Has community consensus been secured on pipe lining design, route, water distribution and cost?	
Has it been ensured that the pipeline has been buried in the ground?	
Has the backfilling been done carefully?	
Has the community been trained on the O&M of the scheme?	
Has the periodic cleaning of the pipes been ensured?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Causeway

Environmental and Social Guidelines

- (i) Causeway repair or construction can lead to downstream slope destabilization and soil erosion. This environmental impact is normally mitigated by: construction in dry seasons, using pre-stress structures, in case of on-site construction of slab light weight rollers are used, and earth works are executed for the stabilization of downstream slopes.
- (ii) Dust emission during the construction is mitigated by periodic water sprinkling.
- (iii) Temporary safe alternate routes are provided to the commuters to avoid inconvenience.
- (iv) Waste construction material and debris should be properly disposed. Generally waste construction material and debris are thrown on the downstream slopes. This is seriously a wrong practice; it can cause inconvenience and accidents for the downstream communities along with marginal ecological losses.
- (v) Downstream communities are properly informed about the construction activity, timings, schedules, and safeguards for securing community consent and avoiding any unpleasant accident.
- (vi) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Causeway

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental</i>		

and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory Design and Implementation Stages

Has the downstream communities been informed about the detailed activity plan and implementation of environmental and social safeguards for the scheme? If yes, then has consent of the downstream communities been taken for execution of the scheme?

Has all the safeguards agreed with the community been implemented?

Has the construction been scheduled during a dry season?

Has the contractor been instructed and provided with the on-site and alternate route water-sprinkling schedule?

Has the dust been suppressed during construction by sprinkling water at least twice a day?

Are there any temporary safe routes available for the community while construction?

Has the waste construction material been disposed of properly?

Have alternative routes been provided during construction for the commuters?

Has the waste disposal plan made a part of the project proposal/document?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files

of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Retaining Wall / Gabion Wall/ Flood Protection Bund

Environmental and Social Guidelines

- (i) Retaining wall normally does not cause environmental impacts. It is suggested that wherever possible use local materials to avoid the transportation of material.
- (ii) Ensure that the structure design ensures the safety of people in case of break down.
- (iii) Construction waste is normally left at the site. Construction waste should be properly disposed after the completion.
- (iv) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (v) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Retaining Wall / Gabion Wall/ Flood Protection Bund

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the</i>		

proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Has it been ensured that the flood water diverted by the bund/wall/gabion does not negatively affect other adjacent communities/villages (by design)?

Has the waste construction material been disposed of properly?

Has the local material been used as much as possible?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?

Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?

ESR for Link Road – Plain Area

Environmental and Social Guidelines

- (i) Link road construction might involve land acquisition, houses, buildings and other physical infrastructure. Wherever acquisition is involved that should be executed with the consent of the stakeholders, and the stakeholders should be properly compensated at market prices under the agreed rates between proponent and stakeholders.
- (ii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (iii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (iv) In most of the cases trees are cut to clear the right of way. Simple compensation for tree cutting is that plant two trees for every tree cut.
- (v) Dust emission during the construction is mitigated by periodic water sprinkling.
- (vi) Temporary safe alternate routes are provided to the commuters to avoid inconvenience.
- (vii) Communities are properly informed about the construction activity, timings, schedules, and safeguards for securing community consent and avoiding any unpleasant accident.
- (viii) Waste construction material and debris should be properly disposed. Generally waste construction material and debris are left unattended on the site.
- (ix) Land acquisition is not covered by PPAF project contracts. It is the responsibility of community to arrange land wherever required with signing of an agreement for voluntarily donated land.

Form A: ESR for Link Road - Plain Area

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Does any person(s) has/have any assets/infrastructure on the donated land for the scheme? If the answer is yes, then has/have they been compensated at replacement cost/market price?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	

If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Has the community consent been secured?	
Has the downstream communities been informed about the detailed activity plan?	
Have all safeguards agreed with the community been implemented?	
Has the waste construction material been disposed of properly?	
Has an alternative route been provided for commuters during construction of the road?	
Are other affected assets been compensated for a replacement cost/market price?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Bridges

Environmental and Social Guidelines

- (i) Under environmental criteria factors of disturbance to natural habitat, disruption to wildlife, and inconvenience to commuters are considered for the site selection of the bridge.
- (ii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (iii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (iv) Construction of such bridges in mountain areas leads to serious land erosion and landslides. This impact is mostly mitigated by up and downstream slope stabilization, thick vegetation, and by using lightweight rollers or other manual means of compaction.
- (v) In some cases blasting is involved for clearing the right of way for the bridge. Blasting without proper arrangements and safeguards can lead to injuries and life losses. There are standard safety procedures for blasting; these standards should be adopted by the project.
- (vi) Bridge construction might involve acquisition of land, houses, buildings and other physical infrastructure. Wherever acquisition is involved that should be executed with the consent of the stakeholders, and the stakeholders should be properly compensated at market prices under the agreed rates between proponent and stakeholders.
- (vii) In most of the cases trees are cut to clear the right of way. Simple compensation for tree cutting is that plant two trees for every tree cut, or relocate the same tree if possible. Location of the bridge is also important. If the bridge is constructed in a plain area then two trees should be planted for every tree cut, but if the bridge is constructed in a mountainous area then four trees should be planted for every tree cut.
- (viii) Dust emission during the construction is mitigated by periodic water sprinkling.
- (ix) Temporary safe alternate routes are provided to the commuters to avoid inconvenience.
- (x) Waste construction material, debris, and spoil heaps should be properly disposed. Generally waste construction material and debris are thrown in the rivers/streams. This is seriously a wrong practice; it can cause blockage in water body and consequently local level flooding.
- (xi) Communities in the vicinity are properly informed about the construction activity, timings, schedules, and safeguards for securing community consent and avoiding any

unpleasant accident.

- (xii) Land maybe required and it is the responsibility of the community to arrange land with signing an agreement for donated land to avoid conflict.

Form A: ESR for Bridges

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the construction of bridge will not lead to large-scale land erosion and landslides?	
Has it been ensured that no ecologically sensitive and culturally important area open-up by the proposed bridge?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Does any person(s) has/have any assets/infrastructure on the donated land for the scheme? If the answer is yes, then has/have they been compensated at replacement cost/market price?	

Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has an environmental profile of the area been prepared, that provides information about the important ecological, cultural, reserve forests, bio-diversity, and other important features of the area?	
Have the communities been informed about the detailed activity plan, including alternate route during construction?	
Has community consent been secured? And has all safeguards agreed with the community been implemented?	
Have safety measures been adopted for the blasting?	
Has the cutting of trees been minimized, and two trees planted for every tree cut along the new road?	
Has the contractor been provided with and instructed about the on-site and alternate route water-sprinkling schedule?	
Have the waste construction material and spoil heaps been properly disposed of?	
Have engineering codes been adopted to design the bridge structure?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility	

(communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Link Road – Mountain Areas

Environmental and Social Guidelines

- (i) Most important environmental threat associated with the link roads in mountain areas is that they might open-up ecologically sensitive and important areas such as reserve forests, bio-diversity areas etc. Access to these areas lead to exploitation of important natural resources. These resources are performing known and unknown multiple ecological functions. No community development project is allowed to threaten such important areas. It is strategically attempted not to open-up these areas.
- (ii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (iii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (iv) Second most important negative environmental impact attached to link roads in mountain areas is that the construction of such roads leads to serious land erosion and landslides. This impact is mostly mitigated by up and down stream slope stabilization, thick vegetation, and by using lightweight rollers or other manual means of compaction.
- (v) In some cases blasting is involved for clearing the right of way for the road. Blasting without proper arrangements and safeguards can lead to injuries and life loss. There are standard safety procedures for blasting; proponent should adopt these procedures.
- (vi) Link road construction might involve land acquisition, houses, buildings and other physical infrastructure. Wherever acquisition is involved that should be executed with the consent of the stakeholders, and the stakeholders should be properly compensated at market prices under the agreed rates between proponent and stakeholders or any other arrangement agreed on consensus basis among stakeholders.
- (xiii) In most of the cases trees are cut to clear the right of way. Simple compensation for tree cutting is that plant two trees for every tree cut, or relocate the same tree if possible. Location of the bridge is also important. If the bridge is constructed in a plain area then two trees should be planted for every tree cut, but if the bridge is constructed in a mountainous area then four trees should be planted for every tree cut.
- (vii) Link road repair or construction can lead to downstream slope destabilization and soil erosion. This environmental impact is normally mitigated by: construction in dry seasons, using pre-stress structures, in case of on-site construction of slab light weight rollers or manual compaction means are used, and earth works are executed for the stabilization of downstream works.
- (viii) Dust emission during the construction is mitigated by periodic water sprinkling.

- (ix) Temporary safe alternate routes are provided to the commuters to avoid inconvenience.
- (x) Waste construction material and debris should be properly managed. Generally waste construction material and debris are thrown on the downstream slopes. This is seriously a wrong practice; it can cause inconvenience and accidents for the downstream communities along with marginal ecological losses.
- (xi) Downstream communities are properly informed about the construction activity, timings, schedules, and safeguards for securing community consent and avoiding any unpleasant accident.
- (xii) Land maybe required and it is the responsibility of the community to arrange land with signing an agreement for donated land to avoid conflict.

Form A: ESR for Link Road – Mountain Areas

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that no ecologically sensitive and culturally important area open-up by the proposed road alignment?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that the construction of the road will not lead to large-scale land erosion and landslides?	
Does any person(s) has/have any assets/infrastructure on the donated land for the scheme? If the answer is yes, then has/have they been compensated at replacement cost/market price?	

Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has an environmental profile of the area been prepared, that provides information about the important ecological, cultural, reserve forests, bio-diversity, and other important features of the area?	
Have the communities been informed about the detailed activity plan, including alternate route during construction?	
Has community consent been secured? And has all the safeguards agreed with the community implemented?	
Have safety measures for blasting been adopted?	
Has the cutting of trees been minimized, and two trees planted for every tree cut along the new road?	
Has the contractor been provided with and instructed about the on-site and alternate route water-sprinkling schedule?	
Has the waste construction material been properly disposed of?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

Chapter 9

WASTEWATER MANAGEMENT



Specific Intervention

Pg. #

Sanitation Schemes (*latrines, T-chambers, drains, oxidation pond*)

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ESR for Sanitation Schemes

Environmental and Social Guidelines

General: There are two sets of arrangements for the safe disposal of municipal wastewater:

(a) Latrines + T-hodies + Covered Drains/Sewerage System + Safe Disposal

(b) Latrines + Covered Drains/Sewerage System + Oxidation Pond + Safe Disposal

Both arrangements if properly constructed do the desired level of treatment. After this level of treatment the wastewater can be discharged to any natural water body, municipal and irrigation system. In case, if the water is discharged to irrigation system then make sure that water is not applied to vegetable crops.

- (i) **Latrines:** Conventional or flush latrines should be linked with P-traps; this will substantially reduce the possibilities of spread and contact of pathogens and other pollutants with the humans at the household level. Health improvement impact of effective latrines is only realized if the community is also trained on better hygienic and sanitation practices e.g. washing hands with soap after defecation, no open defecation in and outside house, and daily or twice a day cleaning of latrine.
- (ii) **Septic Tank:** Wastewater can be treated at the household level by installing septic tanks. In the presence of septic tanks, there is no need to construct oxidation ponds. It is important that septic tank should be lined with concrete, unlined septic tanks cause groundwater contamination. The community needs to be trained for the proper cleaning and maintenance of the septic tank.
- (iii) **Drains:** Open drains do not serve the purpose of safe sanitation. In open drains the possibility of human-pollution contact remain high, these drains only serve the purpose of conveyance, and throughout conveyance human-pollution interaction remain active. This interaction causes serious negative impacts on the community health. Whenever drains will be improved or lined then these must be converted into covered drains. During construction of drains, alternative drainage system is provided to reduce the inconvenience to the community and reducing the possibility of human-pollution interaction. Water is sprinkled periodically throughout the construction period for controlling dust emission. At the completion of the construction work, the debris of construction material should be properly disposed.
- (iv) **Oxidation Ponds:** Depth of the pond determines about the type of treatment process happening in the pond. Normally facultative ponds are 3-4 ft. deep, and treatment happens through anaerobic conditions at the bottom and aerobic conditions at the surface. Anaerobic ponds are 10-15 ft. deep, and treatment happens through anaerobic conditions. Anaerobic ponds more or less function as septic tank. Lining of both types of ponds is essential to eliminate the possibilities of groundwater contamination due to seepage. Brick or concrete lining is very expensive, 6 inches lining by puddle clay is equally effective by function and it is also very cost effective. In case facultative or anaerobic pond has been constructed then there is no need to construct septic tanks at the household level.
- (v) **Piped Lining:** All water pipelines must be buried underground, in order to ensure the

safety of the equipment, and to avoid any accidents. Backfilling must be carefully done. Fine clay or sand cushions are recommended around the pipe during backfilling.

- (vi) Land maybe required and it is the responsibility of the community to arrange land with signing an agreement for donated land to avoid conflict.
- (vii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (viii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Sanitation Schemes

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has one of the complete alternative stated in the guidelines for safe disposal been planned? Or Has it been ensured that in case one of the components of the alternatives is planned then other components either exists or is planned in the future?		
Has it been ensured that the proposed oxidation pond is located 100 m away from the residential areas?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration,		

damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<p><i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
Mandatory at Design and Implementation Stages	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	
Latrine	
Have p-traps been installed to both conventional and flush latrines?	
Has the community been trained on better hygienic and sanitation practices?	
T-Hodies or Septic Tank	

Have the T-hodies or septic tank lined with brick or concrete lining?	
Is the septic tank kept 15m away from ground water well (EPA KP Guidelines)?	
Has the community been informed about the frequency of cleaning?	
Drain	
Has it been ensured that only covered drains are constructed?	
Has it been ensured that water supply pipelines are kept away from the drains?	
Has it been ensured that the water is sprinkled periodically during construction?	
Has it been ensured that alternate drains are provided during construction?	
Has the waste construction material been properly disposed of?	
Oxidation Pond	
Has the pond been lined with 6 inches puddle clay?	
Has the community been informed about the pond cleaning method and frequency?	
Has the community been informed and has it been ensured that the treated wastewater will not be applied to the vegetable crops?	
Has an agreement been signed and implemented for the donated land?	
Piped Lining	
Has it been ensured that the pipeline has been buried in the ground?	
Has the backfilling been done carefully?	

Chapter 10

SOCIAL SECTOR DEVELOPMENT



Specific Intervention	Pg. #
School (Construction/Renovation)	153
School (Adoption/Management)	158
Basic Health Unit (BHU)/Dispensary (Construction/Renovation)	163
Basic Health Unit (BHU)/Dispensary (Adoption/Management)	168

ESR for Schools (Construction/Renovation)

Environmental and Social Guidelines

- (i) If it is an existing school then mostly no difference of point of view exists in the community about the location of the school. In case of new schools the proponent should locate the school with the consent of the community. New schools should not be located along the major roads and highways. In order to promote safe practices, building structure should follow the building codes for designing as per seismic zone.
- (ii) There should not be any conflict over land and land must be voluntarily donated.
- (iii) Construction site should be periodically (preferably twice a day) sprinkled with water to suppress dust emission.
- (iv) Enough rooms to accommodate all grades, including a room for teachers should be provided.
- (v) Proper light and ventilation should be ensured in each room.
- (vi) **Drinking Water Sources on School Premises:**

Water should be tested for coliform, fecal coliform, fluoride and nitrate. In case the school is located in the district of arsenic contamination of the groundwater, then some other source of water supply should be used such as surface water or shallow water.

- a) Water Tanks: Proponent of the project should make it a point to inform the school management about the importance of cleaning of the water tank. Mostly drinking water tanks are not cleaned in the schools and students drink contaminated water. This is a serious health hazard for the students. These tanks must be cleaned every three months. In case a new water tank is constructed please refer and adhere to ESR Form A for Water Tanks (Section II - Chapter 1).
 - b) Hand pumps: Shallow water table is commonly contaminated and these contaminants cause moderate to high significant health impacts on the communities. Test reports are needed for these parameters for the nearby hand pump at the proposal stage, and at bore hole stage for the proposed hand pump. In case a new hand pump is constructed please refer and adhere to ESR Form A for Hand Pumps (Section II - Chapter 1).
 - c) Open Well: Open wells are commonly contaminated and these contaminants cause moderate to high significant health impacts on the communities. Proper measures should also be taken to avoid surface contamination. In case a new well is constructed please refer and adhere to ESR Form A for Open Wells (Section II - Chapter 1).
- (vii) **Latrines**: Many rural schools do not have latrines. Students go for open defecation. Proponent of the project should include latrines as essential part of the project. Separate latrines for boys and girls must be made. Conventional or flush latrines should be constructed; this will substantially reduce the possibilities of spread and contact of

pathogens and other pollutants. Latrines are linked with the septic tank to avoid dispersal of pollutants in the community. It is recommended that lined septic tanks should be constructed for latrines. Health improvement impact of effective latrines is only realized if the students are also trained on better hygienic and sanitation practices e.g. washing hands with soap after defecation, no open defecation in and outside school, and daily or twice a day cleaning of latrine. In case a new latrine is constructed, please refer and adhere to ESR Form A for Sanitation Schemes (Section II - Chapter 4).

- (viii) **Solid waste:** Three types of waste bins are provided in the school. It is recommended that two small bins should be provided in each class room. One large bin should be sited within the school boundary wall in order to collect all the waste at one site. Waste from the bins should be collected and disposed of regularly at a suitable dumping site. Open dumping should be avoided as it is not an environmentally friendly practice. Odor from bins is managed by timely pick-up of solid waste. Bins must be covered to prevent the access of vectors.
- (ix) In case of girl's school, location and boundary walls must be taken into consideration.
- (x) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (xi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for School (Construction/Renovation)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that no new schools are located along the major roads and highways?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
<i>If answer to any of the above stated environmental criterion is 'NO' then the proponent of the</i>		

project should work on the alternative location of the school, sources of drinking water, and include safe latrines as essential part of the proposal. In the case of non-compliance to any of the above criterion the proposal cannot be approved.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Have building codes been adopted as per seismic zones for building structure and design?

Has the site been appropriately fenced and sprinkled with water for dust suppression during construction?

Have enough rooms been provided to accommodate all grades, including a room for teachers?

Has proper light and ventilation been ensured in each room?

Has the water testing of the tank water or other drinking water source been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.

Have surface and shallow water sources been used in the arsenic contaminated districts? Has it been ensured that these water sources are not contaminated by arsenic?

In case of construction of a new drinking water source (e.g. water tank, hand pump, open well etc.), has relevant Form A and B been completed?

Have separate latrines been constructed for boys and girls, and linked with p-traps, and septic tanks?

In case of construction of new latrines, has relevant Form A and B been completed?

Has the waste from the bins been collected regularly and disposed of at suitable dumping site?

Has open dumping been avoided as it is not an environmentally friendly practice?

In case of girl's school, has the location and boundary walls been taken into consideration?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

<p>Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?</p>	
<p>Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?</p>	
<p>Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?</p>	
<p>Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?</p>	

ESR for Schools (Adoption/Management)

Environmental and Social Guidelines

- (i) If it is an existing school then mostly no difference of point of view exists in the community about the location of the school.
- (ii) There should not be any conflict over land and land must be voluntarily donated.
- (iii) **Drinking Water Sources on School Premises:**

Water should be tested for coliform, fecal coliform, fluoride and nitrate. In case the school is located in the district of arsenic contamination of the groundwater, then some other source of water supply should be used such as surface water or shallow water.

- a) Water Tanks: Proponent of the project should make it a point to inform the school management about the importance of cleaning of the water tank. Mostly drinking water tanks are not cleaned in the schools and students drink contaminated water. This is a serious health hazard for the students. These tanks must be cleaned every three months. In case a new water tank is constructed please refer and adhere to ESR Form A for Water Tanks (Section II - Chapter 1).
- b) Hand pumps: Shallow water table is commonly contaminated and these contaminants cause moderate to high significant health impacts on the communities. Test reports are needed for these parameters for the nearby hand pump at the proposal stage, and at bore hole stage for the proposed hand pump. In case a new hand pump is constructed please refer and adhere to ESR Form A for Hand Pumps (Section II - Chapter 1).
- c) Open Well: Open wells are commonly contaminated and these contaminants cause moderate to high significant health impacts on the communities. Proper measures should also be taken to avoid surface contamination. In case a new well is constructed please refer and adhere to ESR Form A for Open Wells (Section II - Chapter 1).

Communities should be educated on the importance, and alternative methods of clean drinking water.

- (iv) **Latrines**: Many rural schools do not have latrines. Students go for open defecation. Proponent of the project should include latrines as essential part of the project. Separate latrines for boys and girls must be made. Conventional or flush latrines should be constructed; this will substantially reduce the possibilities of spread and contact of pathogens and other pollutants. Latrines are linked with the septic tank to avoid dispersal of pollutants in the community. It is recommended that lined septic tanks should be constructed for latrines. Latrines must be cleaned daily or twice a day. Health improvement impact of effective latrines is only realized if the students are also trained on better hygienic and sanitation practices e.g. washing hands with soap after defecation, no open defecation in and outside school, and daily or twice a day cleaning of latrine. In case a new latrine is constructed, please refer and adhere to ESR Form A for

Sanitation Schemes as per (Section II - Chapter 4).

- (v) **Sanitation & Hygiene:** Social awareness must be given on good sanitation and hygiene practices e.g. washing hands with soap after defecation, no open defecation in and outside school, and daily or twice a day cleaning of latrine. It should be ensured that such trainings/campaigns are encouraged and held frequently for the entire school management, teachers, and students. All teachers and management of the school should be neat and clean, so that students are encouraged to adopt and emulate similar behavior. Educational material on such topics should also be encouraged to be displayed in the school.
- (vi) **Solid waste:** Three types of waste bins are provided in the school. It is recommended that two small bins should be provided in each class room. One large bin should be sited within the school boundary wall in order to collect all the waste at one site. Waste from the bins should be collected and disposed of regularly at a suitable dumping site. Open dumping should be avoided as it is not an environmentally friendly practice. Odor from bins is managed by timely pick-up of solid waste. Bins must be covered to prevent the access of vectors. Also, burning of solid waste can be hazardous and cause serious health problems. Teachers, management of the school, and the children should be trained on good practices of solid waste management and hazards of the solid waste burning.
- (vii) Co-curricular activities and social awareness campaigns should be encouraged and used as a learning tool by teachers to educate students on environmental safeguards and ensure environmental sustainability e.g. Plantation done and cared for by teachers and students (unless there are severe water problems in the area), nature walk around the school etc.
- (viii) In case of girl's school, location and boundary walls must be taken into consideration.
- (ix) Female membership in the education committee must be ensured, especially in case of girl's and co-education schools.
- (x) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (xi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for School (Adoption/Management)

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at Adoption Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/marginalized due to this scheme?	
In case of girl's school, has the location and boundary walls been taken into consideration?	

Have separate latrines been constructed for boys and girls, and linked with p-traps, and septic tanks?	
In case of construction of new latrines, has relevant Form A and B been completed?	
Have two small bins been provided in each classroom, and one large bin sited within the school boundary wall?	
Has appropriate gender representation in the School Management Committee (SMC) membership been ensured?	
Has community/parent representation in the School Management Committee (SMC) been ensured as per the Terms of References (TOR) of the SMC?	
Have the School Management Committee (SMC) members been made aware of their TOR formally? Have they been provided a copy of their TOR in Urdu?	
Is regular record being maintained of meetings, admissions, attendance, dropouts, etc.?	
Has the SMC been registered with the local Government education department (where applicable under provincial act)?	
<p><i>If answer to any of the above stated environmental criterion is 'NO' then the proponent of the project should work on the alternative location of the school, sources of drinking water, and include safe latrines as essential part of the proposal. In the case of non-compliance to any of the above criterion the proposal cannot be approved.</i></p> <p><i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i></p>	
On-going Measures during Management Period	
Has the water testing of the tank water or other drinking water source been carried out and do the test results confirm that the water is not contaminated by coliform, fecal coliform, nitrate, arsenic, and fluoride? Attach test report with the design report.	
Have surface and shallow water sources been used in the arsenic contaminated districts? Has it been ensured that these water sources are not contaminated by arsenic?	
In case of construction of a new drinking water source (e.g. water tank, hand pump, open well etc.), has relevant Form A and B been completed?	
Has it been ensured that the latrines are cleaned daily?	

Have the teachers and the management of the school been trained/made aware on the importance of clean drinking water?	
Are water tanks cleaned every three months?	
Have the teachers, management of the school and students been trained/made aware on good sanitation and hygiene practices?	
Has the waste from the bins been collected regularly and disposed of at suitable dumping site?	
Has open dumping been avoided as it is not an environmentally friendly practice?	
Have the teachers, management of the school and students been trained/made aware on solid waste management and hazards of solid waste burning?	
Have co-curricular activities/campaigns been organized by teachers to educate students on environmental safeguards and ensure environmental sustainability?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Basic Health Unit/Dispensary (Construction/Renovation)

Environmental and Social Guidelines

- (i) No conflict over the land of Health Unit.
- (ii) Location should be accessible to all, especially women.
- (iii) In order to promote safe practices, building structure should follow the building codes for designing as per seismic zone.
- (iv) Keep the construction site properly fenced and should be periodically (preferably twice a day) sprinkled with water to suppress dust emissions.
- (v) Construction waste is normally left at the site. Construction waste/debris must be disposed of by carrying to designated sites pre-identified in construction with the concerned agencies.
- (vi) Provision of latrines is essential for the proponent of the project. Conventional or flush latrines with P-traps should be constructed. This will substantially reduce the possibilities of spread and contact of pathogens and other pollutants. Latrines should be linked with the septic tanks to avoid dispersal of pollutants in the community. It is recommended that lined septic tanks should be constructed for latrines. Separate latrines should be provided for males and females. Availability of water should also be ensured. In case a new latrine is constructed, please refer and adhere to ESR Form A for Sanitation Schemes (Section II - Chapter 4).
- (vii) Complete set of sterilization equipment and incinerators should be provided to every health center and dispensary.
- (viii) Ensure adoption and training of BHU staff as per the standards outlines in "Hospital Waste Management Rules, 2005" under the Pakistan Environmental Protection Act, 1997. The word "Hospital" as per Rules stands for a clinic, laboratory, dispensary, pharmacy, nursing home, health unit, maternity center, blood bank, autopsy center, mortuary, research institute and veterinary institutions, including any other facility involved in health care and biomedical activities." (see Annexure 11)
- (ix) Train Hospital Management Committee (HMC) to ensure implementation of the "Hospital Waste Management Rules, 2005".
- (x) Separate areas should be designated for sterilization and crushing in BHUs/Health centers.
- (xi) Hazardous waste generated by BHU/dispensary is safely disposed by providing disposal pit (locally made incinerator) located within the BHU/dispensary. Lined and covered pit is constructed with a capacity to accommodate six months to one-year hazardous waste. The pit should be designed in manner that it is sealed and only a small hole with a cap is available for disposing and compacting the hazardous waste. Once the pit is full to its

capacity, then it is completely sealed and a new pit is constructed within the premises.

- (xii) Separate and covered bins should be provided for domestic and medical waste collection.
- (xiii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (xiv) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Basic Health Unit/Dispensary (Construction/Renovation)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
<i>If answer to the above stated environmental criterion is 'NO' then the proponent of the project</i>		

should first qualify the criterion before any further action.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory Design and Implementation Stages

Has a consensus been reached over the location of the Health Unit keeping accessibility of all in view, especially that of women?

Has the building codes as per seismic zones been followed for structural design of the building?

Has the construction site been properly fenced and sprinkled with water twice a day to keep the dust suppressed?

Has the construction waste/debris been disposed of by carrying it to designated sites pre-identified in construction with the concerned agencies?

In case of construction of new latrines, has relevant Form A and B been completed?

Have latrines been provided that are linked with p-traps and septic tanks?

Have separate latrines been provided for both male and females?

Has complete sterilization equipment, incinerators and crushing machine (needle cutter) for needles and sharps been provided?

Has the adoption and training of BHU staff been ensured as per the standards outlined in "Hospital Waste Management Rules, 2005"?

Has the HMC been trained to ensure implementation of the "Hospital Waste Management Rules, 2005"?

Have separate areas been designated for sterilization and crushing in BHUs/Health centers?

Has a safe disposal pit (locally made incinerator) for hazardous waste been constructed within the premises?

Have separate and covered bins for domestic and medical waste collection been provided?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or

mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Basic Health Unit/Dispensary (Adoption/Management)

Environmental and Social Guidelines

- (i) No conflict over the land of Health Unit.
- (ii) Location should be accessible to all, especially women.
- (iii) Provision of latrines is essential for the proponent of the project. Conventional or flush latrines with P-traps should be constructed. This will substantially reduce the possibilities of spread and contact of pathogens and other pollutants. Latrines should be linked with the septic tanks to avoid dispersal of pollutants in the community. It is recommended that lined septic tanks should be constructed for latrines. Separate latrines should be provided for males and females. Availability of water should also be ensured. In case a new latrine is constructed, please refer and adhere to ESR Form A for Sanitation Schemes (Section II - Chapter 4).
- (iv) Basic health units and dispensaries due to poor working practices are one of the important sources of spread of different diseases in the community. Most important poor practices are: improper sterilization of equipment, reuse of used needles & syringes, poor sanitary practices by the medical staff, and unsafe disposal of hazardous waste.
- (v) Complete set of sterilization equipment and incinerators should be provided to every health center and dispensary. The management of BHU/dispensary should be trained on the scientific method of sterilization.
- (vi) Ensure adoption and training of BHU staff as per the standards outlines in "Hospital Waste Management Rules, 2005" under the Pakistan Environmental Protection Act, 1997. The word "Hospital" as per Rules stand for a clinic, laboratory, dispensary, pharmacy, nursing home, health unit, maternity center, blood bank, autopsy center, mortuary, research institute and veterinary institutions, including any other facility involved in health care and biomedical activities. (see Annexure 11)
- (vii) Train HMC to ensure implementation of the "Hospital Waste Management Rules, 2005" (see Annexure 11).
- (viii) Used needles and syringes crushing equipment (needle cutter) should be provided to the BHU/dispensary. The management of BHU/dispensary should be trained on the scientific method of sterilization. Separate areas should be designated for sterilization and crushing in BHUs/Health centers.
- (ix) Crushing equipment (needle cutter) to crush used needles and syringes should be provided, and the management should be instructed to essentially practice the crushing of used needles and syringes.
- (x) Hazardous waste generated by BHU/dispensary is safely disposed by providing disposal pit (locally made incinerator) located within the BHU/dispensary. Lined and covered pit is constructed with a capacity to accommodate six months to one-year hazardous waste.

The pit should be designed in manner that it is sealed and only a small hole with a cap is available for disposing and compacting the hazardous waste. Once the pit is full to its capacity, then it is completely sealed and a new pit is constructed within the premises.

- (xi) Separate and covered bins should be provided for domestic and medical waste collection.
- (xii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (xiii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Basic Health Unit/Dispensary (Adoption/Management)

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Adoption Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/		

marginalized due to this scheme?	
Has a consensus been reached over the location of the Health Unit keeping accessibility of all in view, especially that of women?	
Have latrines been provided that are linked with p-traps and septic tanks?	
Have separate latrines been provided for both male and females?	
Has appropriate gender representation in the Health Management Committee (HMC) membership been ensured?	
Have the Health Management Committee (HMC) members been made aware of their Terms of References formally? Have they been provided a copy of their Terms of Reference in Urdu?	
Is there a process in place to check for medicines expiry dates periodically, as well as process for disposal of expired drugs?	
Is regular record being maintained of meetings, OPD, dispensary, etc.?	
Has the HMC been registered with the local government health department (where applicable under provincial act)?	
<i>If answer to the above stated environmental criterion is 'NO' then the proponent of the project should first qualify the criterion before any further action.</i>	
<i>If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.</i>	
On-going Measure during Management Period	
Has the adoption and training of BHU staff been ensured as per the standards outlined in "Hospital Waste Management Rules, 2005"?	
Has the HMC been trained to ensure implementation of the "Hospital Waste Management Rules, 2005"?	
Has complete sterilization equipment, incinerators and crushing machine (needle cutter) for needles and sharps been provided?	
Have separate areas been designated for sterilization and crushing in BHUs/Health centers?	
Has the management and staff of the BHU/dispensary been trained on the issues of hazards of poor sterilization, scientific method of sterilization, reuse of needles and syringes, poor hygiene practices, and unsafe disposal of hazardous waste?	

Has a safe disposal pit (locally made incinerator) for hazardous waste been constructed within the premises?	
Have separate and covered bins for domestic and medical waste collection been provided?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

Chapter 11

OTHER PROJECTS



Specific Intervention	Pg. #
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ESR for Solid Waste Management

Environmental and Social Guidelines

- (i) Solid Waste Management interventions of PPAF are very small. In most of the cases only solid waste bins are provided to the communities.
- (ii) Solid waste bins, if not properly located, designed, and managed, become threats to community health. Location of solid waste bins can also lead to social conflict in the community. The community must be fully involved while deciding the locations of solid waste bins.
- (iii) Odor from bins is managed by timely pick-up of solid waste. Bins must be covered to prevent the access of vectors.
- (iv) Burning of the solid waste at the bin site is the general practice of municipal workers. It is hazardous and can cause serious health hazards for the community. Community must be informed about hazards of the solid waste burning.
- (v) Small bins are mostly located in front of common walls of houses and maximum possible distance from the boundary wall to avoid the social conflicts. Large bins are located 100 meter away from the residential areas in rural areas, and near the open spaces in the built-up or urban area.
- (vi) Social awareness must be given on hygiene and cleanliness
- (vii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (viii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Solid Waste Management

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
<i>If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and</i>	

demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Have small bins been located in front of common walls and at a maximum possible distance from the boundary wall?

Have the large bins been located at a distance of 100 m from the residential areas or near the open space?

Have the communities been trained on solid waste management, hazardous and non-hazardous waste, impacts of solid waste burning, methods of waste reduction, reuse and recycling?

Have a simple solid waste pit been constructed for composting?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?

Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?

ESR for Natural Resource Management

Environmental and Social Guidelines

- (i) Natural resource management projects can be forestation, rangeland management, watershed management, bio-diversity conservation, wildlife conservation etc. Objectives of these projects are to improve the present status of the specific natural resource. Intervention of such projects focus on preventing, conserving, and enhancing the present status of the natural resource, and taking measures to ensure that in future the factors responsible for depletion will be mitigated and controlled for the sustainability of the natural resource.
- (ii) If holistically developed under ecological criteria then mostly these projects do not cause negative environmental impacts, rather these are environmentally friendly projects.
- (iii) Ensure community participation in forestation and rangeland management
- (iv) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan)

Form A: ESR for Natural Resource Management

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/ marginalized due to this scheme?	
Mandatory at Design and Implementation Stages	
Has it been ensured that the project qualify the ecological requirements of the project area?	
Has it been ensured that the project interventions will not lead to natural resource over-harvesting?	

Has it been ensured that the project intervention will not cause negative impacts on the other natural resource in the project area? For instance avoid plantation of alien species without adequately studying their water demand.	
Has it been ensured that the community benefits and partner in all natural resource management activities?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Security Lights

Environmental and Social Guidelines

- (i) Security lights are installed on the demand of community. Security lights serve two functions, (i) security of the area, and (ii) convenience for the people to commute in the night. Community should decide about the location of the security lights with the technical assistance of the partner organization.
- (ii) It should be ensured that security lights are not installed in any Protected Areas, as prohibited by the Wildlife Act, since these lights could be a source of disturbance to wildlife and restrict their movements.
- (iii) It is preferable to use energy saver bulbs, and tube lights, or LED based light system.
- (iv) Fused bulbs and tubes must be disposed of in an environmentally safe manner, preferably by recycling.
- (v) Community must be educated through information and awareness in case of burst and fused bulbs
- (vi) Use of Solar energy is encouraged wherever possible for security lights.
- (vii) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (viii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Security Lights

Project Title:	
Location of the Project:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at the Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?	
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?	
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?	
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?	
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?	
Has it been ensured that the proposed scheme is not located within a Protected Area?	
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?	
Is there any group of people who will become vulnerable/marginalized due to this scheme?	

If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory at Design and Implementation Stages

Has it been ensured that no security lights are installed in any Protected Areas?	
Have energy savers been used for the conservation of electricity?	
Has the community education through information and awareness on burst and fused bulbs been made part of the intervention?	
Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?	
Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?	
Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?	
Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?	
Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?	

ESR for Jetty

Environmental and Social Guidelines

- (i) Jetty owing to its location has the potential to disturb sanctuaries of marine life located at inland (egg laying areas of turtles) and mangroves (shrimp areas). Proponent of the jetties should be aware of such sensitive but important habitat areas of marine life while locating jetties.
- (ii) Engine powered boats generate oil pollution. This is the common sight in most of jetties in Pakistan. Most of the oil pollution is generated due to the poor tuning of the engines, and wet cleaning of the boats. Proponents of the project should create awareness among the fishermen about these issues.
- (iii) Most of the fishermen dispose the fisheries waste close to the jetties. This causes foul smells due to the decomposition of the waste. Proper disposal arrangements for such wastes should be part of the proposal.
- (iv) Proper documentation should be developed to clearly define ownership, usage and accessibility to all groups' particularly poor and vulnerable fishermen.
- (v) Construction on or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (vi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed if construction is on or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Jetty

Project Title:		
Location of the Project:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at the Proposal Stage	Confirmation	
	Write Yes or No	
Has it been ensured that the scheme is in line with the needs identified by the communities in the Village Development Plan?		
Has the location of the scheme been decided with the consensus of all contributing households and the communities that may get affected by the scheme?		
Has it been ensured that proper legal requirements (agreement or affidavit on legal stamp paper) been signed for voluntarily donated land/access (whether public or private)? Has the documentation of the same been ensured in the project files of PO and the community?		
Has it been ensured that the proposed scheme is not located within a Notified Archaeological Site or Monument?		
Has it been ensured that the proposed scheme is not located within a Protected Area?		
Has it been ensured that the scheme does not involve any alteration, damage, or removal of any structure of religious or cultural significance?		
Has it been ensured that no person due to gender, caste, class, religion, or tribe is excluded from the costs and benefits of the scheme?		
Is there any group of people who will become vulnerable/ marginalized due to this scheme?		
Is the Jetty located 1 km away from marine life sanctuaries and habitats?		
Is the Jetty accessible to all, especially poor and vulnerable fishermen?		

If answer to any of the above stated criterion is 'NO' then the proponent should amend the proposal to achieve compliance, develop new alternative, or drop the project. In case the proponent of the project is convinced that though the project does not qualify the environmental and social criteria, even then the project should be implemented under local urgencies and demands, then the proponent should generate strong justification in favor of the project or implement measures to comply the above criteria.

If all answers are in 'Yes' then ensure that the project proposal contains this ESR, with the completed following section.

Mandatory Design and Implementation Stages

Has the solid waste management and safe disposal been made part of the proposal?

Has the community been trained on the benefits of timely tuning of the engines and solid waste management?

Has proper documentation been developed to ensure accessibility and benefits to all?

Has it been ensured that all contributing households have equal access to the benefits (for which the communities identified the scheme) provided from the scheme?

Has it been ensured that scheme does not involve any form of forced or mandatory labor? Has it been ensured that no child labor is employed?

Have the local communities (in addition to the community institution) and all contributing households been educated on the costs (total cost, community share, share per household, etc.), benefits/ accessibility /utility (communal, per household, etc.), O&M plan, and other relevant ESMF requirements related to the scheme?

Has it been ensured that complete scheme record such as project proposal, design digest, and O&M plan being maintained in project files of the implementing community institutions?

Are there any indigenous people (as defined in the PPAF's Indigenous People Planning Framework - IPPF) living in the area and has it been ensured that they are protected as per the guidelines of IPPF?

Chapter 12

LEP INTERVENTIONS



Specific Intervention	Pg. #
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ESR for Agriculture/Cropping

Environmental and Social Guidelines

Agriculture:

- (i) Asset transfers must not be made for crops included in PPAF's Negative List of activities, such as poppy and other prohibited varieties (see *Annexure 6*)
- (ii) Prohibit use of synthetic chemical pesticide sprays. Use of synthetic chemical pesticides can have adverse ecological impacts. Proponent should inform farmers about the benefits and methods of integrated pest management. Use of masks during spraying of permitted pesticides should be made mandatory. Provide masks as part of asset transfer.
- (iii) Overuse of synthetic fertilizer can lead to soil contamination and drop in yield in the long term. Application of synthetic fertilizer under best practices delivers the best results. Poor storage is also an issue; this can lead to local level soil contamination and health hazards.
- (iv) Farmers should be educated about the benefits of using organic fertilizer, crop rotation, land fallowing, Integrated Pest Management (IPM), and use of only 'certified seeds' through linkages and Agriculture Management and Skills Training (AMST) with the Agriculture Extension Department. These alternatives lead to reduction in the use of synthetic fertilizer and these are also cost effective.
- (v) Outreach/training activities for agriculture should benefit both men and women.
- (vi) Child labor is prohibited under the Pakistan Penal Code. Ensure that no child under the age of 18 should be hired to work in hazardous conditions (pesticide sprays, industrial activity); and no child under that age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor.
- (vii) Activities in or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (viii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed by activities in or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Agriculture/Cropping

Beneficiary Name:		
Type of Asset:		
Location of the Asset Transfer:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at Proposal Stage	Confirmation	
	Write Yes or No	
Has cultivation/ processing of poppy and/or other prohibited varieties listed in PPAF’s Negative List (Annexure 6) been prohibited?		
Has the use of synthetic chemical pesticide spray been prohibited?		
Has mask been provided as part of the asset transfer where pesticides are being used?		
Has it been ensured that the asset will not be used within a Notified Archaeological Site or Monument?		
Has it been ensured that the asset will not be used within a Protected Area?		
Has it been ensured that no child labour is hired?		
<p><i>If answer to the above stated environmental and social criterion is ‘NO’ then the asset cannot be transferred.</i></p> <p><i>If all answers are in ‘Yes’ then ensure that the following recommended practices are disseminated to the beneficiaries before or at the time of asset transfer.</i></p>		
Recommended Practices		
Educate farmers about best practices recommended by the Agriculture Department on application of synthetic fertilizer		
Educate farmers about the benefits of using organic fertilizer, crop rotation, land fallowing and use of only ‘certified seeds’ through linkages and AMST (Agriculture Management and Skills Training) with		

the Agriculture Extension Department	
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ESR for Livestock/Poultry/Fish Farming

Environmental and Social Guidelines

- (i) Activities in or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (ii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed by activities in or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).
- (iii) Since solid waste and runoff from the livestock, poultry and fish farming can contaminate the groundwater as well as freshwater; the solid waste should be collected and dumped at a covered place while for large uncovered areas that are likely to contain organic waste, a trap for suspended particles should be constructed.
- (iv) All freshwater sources should be located at a safe distance of at least 30m (see *Annexure 8*) from potential sources of contamination emanating from livestock, poultry and fish farming. Generally, it applies strictly in the areas where water resources are severely limited and are used for multi purposes, e.g., human and livestock consumption, and irrigation etc.

Livestock:

- (v) Animal vaccination and veterinary care should be monitored. Borrowers should be educated about better species of livestock and best health practices for the livestock through linkages and Livestock Management and Skills Training (LMST) with the Livestock Extension Department. This shall also include veterinary care and vaccination plan to control disease.
- (vi) Animal feed production processes can lead to deforestation or destroying of grasslands. Overgrazing can also lead to land degradation. Therefore, open grazing and browsing of livestock in 'arid and non-irrigated areas' is only allowed if based on the principle of 'rotational grazing'* (see *Annexure 5b - Reference List B for arid and non-irrigated areas*).
- (vii) Rotational Grazing is an exercise to divide rangeland/grasslands/pastures into rotation zones based on abundance of vegetation, to restrict overuse of one particular rangeland/grassland/pasture. Overused zone is closed for grazing for a given season to help regeneration, and the livestock is grazed in another zone in simultaneity
- (viii) Awareness on maintenance, odor control and cleaning of livestock enclosures should be provided to the beneficiary. Include mechanism for animal waste disposal in the proposal such as promoting installation of biogas plants for fuel gas and organic fertilizer.
- (ix) Research has shown that continuous supply of drinking water for livestock at all times

allowing them to drink as per their requirement leads to increased productivity. Therefore, it is recommended that where possible livestock should be provided with continuous supply of drinking water.

Poultry:

- (i) Poultry birds are also prone to many diseases such as “rani khet”, and there are possibilities of disease spread in the nearby communities. Borrowers should be educated about hazards of feeding low quality chicken feed, best hygiene and sanitation practices, and birds’ diseases management and associated risk for the community in case of spread.
- (ii) Poultry pens/enclosures are known for their foul smell. Awareness on maintenance, odor control and cleaning of poultry pens/cages should be provided to the beneficiary.

Fish Farming:

- (i) A major issue attached to fish farming is the introduction of exotic species (see Annexure 5c - Reference List C for list of exotic species); this can be disastrous for the local species.
- (ii) Fish farming ponds are mostly without any safety railings; this is a safety hazard for the local population. Fish ponds if not properly managed serve as a mosquito and other insects breeding areas, and this is a serious health hazard for the nearby community.
- (iii) Child labor is prohibited under the Pakistan Penal Code. Ensure that no child under the age of 18 should be hired to work in hazardous conditions (pesticide sprays, industrial activity); and no child under that age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor.

Form A: ESR for Livestock/Poultry/Fish Farming

Beneficiary Name:		
Type of Asset:		
Location of the Asset Transfer:		
ESR prepared by – Name:		
Designation:		
Date:		
Mandatory at Proposal Stage	Confirmation	
	Write Yes, No or N/A	
Has the vaccination of poultry/livestock against diseases that rapidly spread been ensured?		
Has it been ensured that no exotic fish species is introduced in open water bodies such as natural lakes, ponds etc.?		
Has it been ensured that the asset will not be used within a Notified Archaeological Site or Monument?		
Has it been ensured that the asset will not be used within a Protected Area?		
Has the safe distance from the water sources ensured?		
Has it been ensured that no child labour is hired?		
<i>If answer to the above stated environmental and social criterion is 'NO' then the asset cannot be transferred.</i>		
<i>If all answers are in 'Yes' then ensure that the following recommended practices are disseminated to the beneficiaries before or at the time of asset transfer.</i>		
Recommended Practices		
Livestock: Open grazing and browsing of livestock in 'arid and non-irrigated areas' is only allowed if based on the principle of 'rotational		

grazing’.	
Educate beneficiary about better species of livestock and best health practices for the livestock through linkages and LMST with the Livestock Extension Department. This shall also include veterinary care and vaccination plan to control disease.	
Educate beneficiary about the harmful impacts of using booster medicines (hormones, etc.) for meat growth or increased milk production in livestock and restrict its use	
Educate beneficiary about mechanisms for animal waste disposal such as installation of biogas plants for fuel gas and organic fertilizer	
Educate beneficiary about benefits of providing livestock with continuous supply of drinking water.	
Poultry Farming: Educate borrower about hazards of feeding low quality chicken feed, best hygiene and sanitation practices, and birds diseases management and its risk for the community in case of spread	
Fish Farming: Educate farmer about the disadvantages of introducing exotic species, better management practices for pond, and importance of fencing for the community safety through linkages and trainings with the Fisheries Management Department	

ESR for Food Processing/Production

Environmental and Social Guidelines

- (i) Many preservatives are used for food processing; these preservatives and dyes should be meant for food and derived from natural sources (e.g., salt, vinegar, sugar as preservatives, and spices such as turmeric, tea, flowers, and fruits etc., as dyes), otherwise these would serve as health hazards for the consumers. According to certain media documentaries, various vendors have been caught using textile dye as food coloring agents.
- (ii) Use of hazardous non-biodegradable packaging material such as black polythene (black plastic bags) and Styrofoam should be prohibited. Also, rusted cans and unwashed/unsterilized bottles must not be used.
- (iii) Proper hygiene practices should be practiced to avoid the contamination of the processed food. Hygienic working conditions should be ensured by providing gear such as disposable gloves and clean utensils as part of asset transfer. Also provide covered bins to ensure collection and safe disposal of solid waste.
- (iv) Large amount of pesticides are applied on the fruit crops. If not properly washed at the time of processing then residues of pesticides are left on the surface of the fruits. This negligence may lead to serious health hazards for the consumers.
- (v) Improper/obsolete cooking stoves and gas pipeline can result in wastage and safety hazards such as accidents due to gas leakage.
- (vi) Lit stoves and running water when not in use can lead to wastage of natural resources.
- (vii) Poor ventilation in cooking areas can result in indoor air pollution leading to health problems (e.g. respiratory, eye, etc.).
- (viii) In some cases long/unpaid hours of work become common.
- (ix) Child labor is prohibited under the Pakistan Penal Code. Ensure that no child under the age of 18 should be hired to work in hazardous conditions (pesticide sprays, industrial activity); and no child under that age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor.
- (x) Activities in or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (xi) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed by activities in or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

- (xii) Since solid waste and runoff from the food processing and production activities may contaminate the groundwater as well as freshwater; the solid waste should be collected and dumped at a covered place while for large uncovered areas that are likely to contain organic waste, a trap for suspended particles should be constructed.
- (xiii) All freshwater sources should be located at a safe distance of at least 15m (*see Annexure 8*) from potential sources of contamination emanating from food processing and production. Generally, it applies strictly in the areas where water resources are severely limited and are used for multi purposes, e.g., human and livestock consumption, and irrigation etc.

Form A: ESR for Food Processing/Production

Beneficiary Name:	
Type of Asset:	
Location of the Asset Transfer:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at Proposal Stage	Confirmation
	Write Yes or No
Has it been ensured that natural additives, preservatives, and dyes/food color meant for food are used in food processing/production?	
Has the use of packaging material such as black polythene (black plastic bags), Styrofoam, rusted cans, and unwashed/unsterilized bottles been prohibited?	
Have hygienic working conditions been ensured by providing disposable gloves, and clean utensils as part of asset transfer?	
Has the collection and safe disposal of solid waste been ensured by providing covered bins?	
Has it been ensured that the asset will not be used within a Notified Archaeological Site or Monument?	
Has it been ensured that the asset will not be used within a Protected Area?	
Has the safe distance from the water sources ensured?	
Has it been ensured that no child labour is hired?	
<i>If answer to the above stated environmental and social criterion is 'NO' then the asset transfer cannot be transferred.</i>	
<i>If all answers are in 'Yes' then ensure that the following recommended practices are disseminated</i>	

to the beneficiaries before or at the time of asset transfer.

Recommended Practices

Labour:

- Recommend fixing minimum wage as per Pakistan Labour Laws (Refer to the current minimum wage)
- Recommend fixed standard working hours at 8 hrs. per person per day.

Recommend proper washing of raw meat, vegetables, and fruits before use in food production.

Encourage energy conservation/efficient practices such as use of energy saver bulbs, switching off stoves when not in use, properly turning off taps when finished using and other such practices.

Secure installation of stoves/cooking appliances and proper ventilation channels in cooking areas (e.g. exhaust fan, open window etc.) is recommended.

ESR for Handicrafts/Cottage Industry

Environmental and Social Guidelines

- (i) Ensure that communities residing within the premise of *Protected Areas* (e.g. national parks and game reserves) are not practicing illegal wood extraction for use in wood work/furniture making, or chemically flushing/cutting trees for extraction of gum etc. (see *Annexure 5a - Reference List A for list of Protected Areas*).
- (ii) Use of hazardous non-biodegradable packaging material such as black polythene (black plastic bags) and Styrofoam should be prohibited.
- (iii) Ensure that hazardous liquid and solid waste (e.g. mercury, biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) is stored separately out of reach of children and is delivered to disposal sites in secure containers for safe disposal.
- (iv) Use of hazardous dyes and chemicals cause health problems such as skin allergies/cancer/other fatal diseases. Also, improper use of tools and chemicals (polishes, paints, thinners etc.) can result in accidents and health problems. Provide protective gear such as gloves, masks, goggles, helmets, welding glasses/shields for handling chemical polishes, dyes paints and machinery as part of the asset transfer.
- (v) Poor ventilation can result in indoor air pollution leading to health problems (respiratory, eye, etc.). Ensure installation of proper ventilation channels in workshops and when working with chemicals, paints, and polishes in confined spaces (e.g. open window, open door, exhaust fan, etc.).
- (vi) Most cottage industries and handicraft production takes place in or near living areas, which gives easy access of machines, tools and chemicals to family members including children. This can result in misuse, accidents and health problems if equipment is not used and stored properly.
- (vii) Production of handicrafts such as carpets is labour intensive processes. Excessively long working hours can lead to health problems relating to eyesight, posture, exhaustion and skin etc.
- (viii) Child labor is prohibited under the Pakistan Penal Code. Ensure that no child under the age of 18 should be hired to work in hazardous conditions (pesticide sprays, industrial activity); and no child under that age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor.
- (ix) Activities in or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (x) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed by activities in or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the

disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

- (xi) Since solid waste and runoff from the handicraft production and cottage industry (especially from the chemicals and dyes used in the handicraft production) may contaminate the groundwater as well as freshwater; the solid waste should be collected and dumped at a covered place while for large uncovered areas that are likely to contain organic waste, a trap for suspended particles should be constructed.
- (xii) All freshwater sources should be located at a safe distance of at least 15m (see *Annexure 8*) from potential sources of contamination emanating from handicraft centers and cottage industry. Generally, it applies strictly in the areas where water resources are severely limited and are used for multi purposes, e.g., human and livestock consumption, and irrigation etc.

Form A: ESR for Handicrafts/Cottage Industry

Name of Beneficiary:	
Type of Asset:	
Location of the Asset Transfer:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at Proposal Stage	Confirmation
	Write Yes, No or N/A
Has illegal wood extraction and chemical extraction of gum etc. been prohibited for communities residing within the premises of <i>Protected Areas</i> ?	
Has the use of packaging material such as black polythene (black plastic bags) and Styrofoam been prohibited?	
Has proper storage and disposal of hazardous liquid and solid waste (e.g. mercury, biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) been ensured?	
Has protective gear such as gloves and masks for handling chemical polishes, dyes, and paints been provided as part of asset transfer?	
Has the installation of proper ventilation channels when working with chemicals, paints and polishes in confined spaces (e.g. open window, open door, exhaust fan etc.) been ensured?	
Has it been ensured that the asset will not be used within a Notified Archaeological Site or Monument?	
Has it been ensured that the asset will not be used within a Protected Area?	
Has the safe distance from the water sources ensured?	
Has it been ensured that no child labour is hired?	
<i>If answer to the above stated environmental and social criterion is 'NO' then the asset cannot be transferred.</i>	
<i>If all answers are in 'Yes' then ensure that the following recommended practices are disseminated</i>	

to the beneficiaries before or at the time of asset transfer.

Recommended Practices

Labour:

- Recommend fixing minimum wage as per Pakistan Labour Laws (refer to the current minimum wage)
- Recommend fixed standard working hours at 8 hrs. per person per day.

Electrical wiring in the enterprise/workshop should be securely installed.

Encourage energy conservation/efficient practices such as use of energy saver bulbs, switching off machinery/tools when not in use, properly turning off taps when finished using and other such practices.

Machinery, tools and chemicals when not in use should be stored properly out of reach of children.

Machinery, wiring, and other equipment should be kept clear of walking areas.

ESR for Micro Enterprise

Environmental and Social Guidelines

- (i) Use of hazardous non-biodegradable packaging material such as polythene (black plastic bags) and Styrofoam should be prohibited.
- (ii) Prohibit processing and sale of **all illegal** drugs and addictive substances (e.g. *heroin, hashish, opium, bhang, alcohol*).
- (iii) Prohibit sale of addictive substances such as *tobacco, gutka, niswar, cigarettes, beeri, hukka, paan parag, sheesha*, and any other products containing such substances to any person under the age of 18.
- (iv) Hygienic working conditions should be ensured by providing covered bins to ensure collection and safe disposal of solid waste.
- (v) Encourage energy conservation/efficient practices such as use of energy saver bulbs, switching off tools/machinery when not in use, properly turning off taps when finished using and other such practices. When providing lighting equipment, ensure energy conservation by providing energy saver bulb/s as part of the asset transfer.
- (vi) Where Asset Transfers are Medical Kits - Improper sterilization of equipment, reuse of needles and syringes and unsafe disposal of hazardous waste can be a source of different diseases. Provide sterilization equipment and crushing machine for needles and syringes in Medical Kits provided as asset transfers.
- (vii) Child labor is prohibited under the Pakistan Penal Code. Ensure that no child under the age of 18 should be hired to work in hazardous conditions (pesticide sprays, industrial activity); and no child under that age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor.
- (viii) Activities in or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (ix) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed by activities in or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Micro Enterprise

Beneficiary Name:	
Type of Asset:	
Location of the Asset Transfer:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at Proposal Stage	Confirmation
	Write Yes, No or N/A
Has the use of packaging material such as black polythene (black plastic bags), and Styrofoam been prohibited?	
Has the processing and sale of illegal drugs and addictive substances such as <i>heroin, hashish, opium, bhang, alcohol</i> been prohibited?	
Has it been ensured that no addictive substance, such as <i>tobacco, gutka, niswar, cigarettes, beeri, hukka, paan parag, sheesha</i> , and products containing such substances are sold to any person under the age of 18?	
Has the collection and safe disposal of solid waste been ensured by providing covered bins?	
Has energy conservation been ensured by providing energy saver bulb/s as part of the asset transfer? (where lighting equipment is part of asset)	
<i>Where Asset Transfers are Medical Kits</i> - Has sterilization equipment and crushing machine for needles and syringes been provided in Medical Kits as part of asset the transfer?	
<i>Has it been ensured that the asset will not be used within a Notified Archaeological Site or Monument?</i>	
<i>Has it been ensured that the asset will not be used within a Protected Area?</i>	
Has it been ensured that no child labour is hired?	
<i>If answer to the above stated environmental and social criterion is 'NO' then the asset cannot be transferred.</i>	
<i>If all answers are in 'Yes' then ensure that the following recommended practices are disseminated to the beneficiaries before or at the time of asset transfer.</i>	

Recommended Practices	
<p>Labour:</p> <ul style="list-style-type: none"> • Recommend fixing minimum wage as per Pakistan Labour Laws (refer to the current minimum wage) • Recommend fixed standard working hours at 8 hrs. per person per day. 	
Electrical wiring in the enterprise/workshop should be securely installed.	
Encourage energy conservation/efficient practices such as use of energy saver bulbs, switching off machinery/tools when not in use, properly turning off taps when finished using and other such practices.	
Machinery, tools and chemicals when not in use should be stored properly out of reach of children.	
Machinery, wiring, and other equipment should be kept clear of walking areas.	

ESR for Workshops/Technicians

Environmental and Social Guidelines

- (i) Ensure that hazardous liquid and solid waste (e.g. mercury, biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) is stored separately out of reach of children and is delivered to disposal sites in secure containers for safe disposal. Awareness on safe storage of such substances should be given to the beneficiary.
- (ii) Encourage energy conservation/efficient practices such as use of energy saver bulbs, switching off tools/machinery when not in use, properly turning off taps when finished using and other such practices. When providing lighting equipment, ensure energy conservation by providing energy saver bulb/s as part of the asset transfer.
- (iii) Use of hazardous dyes and chemicals cause health problems such as skin allergies/cancer/other fatal diseases. Also, improper use of tools and chemicals (polishes, paints, thinners etc.) can result in accidents and health problems. Provide protective gear such as gloves, masks, goggles, helmets, welding glasses/shields for handling chemical polishes, dyes paints and machinery as part of the asset transfer.
- (iv) Poor ventilation can result in indoor air pollution leading to health problems (respiratory, eye, etc.). Ensure installation of proper ventilation channels in workshops and when working with chemicals, paints, and polishes in confined spaces (e.g. open window, open door exhaust fan, etc.). The workshop should have proper signage, including display of current voltage, no smoking and other related precautions.
- (v) Workshops/machinery in confined spaces can result in accidents. Ensure safe exits in case of fire emergencies when working in confined spaces (e.g. unobstructed door, window, etc.). Provide basic first aid box as part of the asset transfer.
- (vi) Child labor is prohibited under the Pakistan Penal Code. Ensure that no child under the age of 18 should be hired to work in hazardous conditions (pesticide sprays, industrial activity); and no child under that age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor.
- (vii) Activities in or near a site that has historic, or cultural importance may offend the local population, damage local social fabric, and generate conflict with the local community (see *Annexure 5d – Reference List E for list of Notified Archaeological Sites and Monuments of Pakistan*)
- (viii) Similarly, habitats for plants/animals of ecological, cultural, and/or economic importance may be harmed/destroyed by activities in or near a Protected Area. In such cases an alternative site shall be located, or proper measures shall be taken to minimize the disturbance to the local community/habitat (see *Annexure 5a – Reference List A for list of Protected Areas of Pakistan*).

Form A: ESR for Workshops/Technicians

Beneficiary Name:	
Type of Asset:	
Location of the Asset Transfer:	
ESR prepared by – Name:	
Designation:	
Date:	
Mandatory at Proposal Stage	Confirmation
	Write Yes, No or N/A
Has proper storage and disposal of hazardous liquid and solid waste (e.g. mercury, biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) been ensured?	
Has energy conservation been ensured by providing energy saver bulb/s as part of the asset transfer? (where lighting equipment is part of asset)	
Has protective gear such as gloves, masks, goggles, helmets, welding glasses/shields for handling chemical polishes, dyes, paints, and machinery been provided as part of the asset transfer?	
Has the installation of proper ventilation channels when working with chemicals, paints and polishes in confined spaces (e.g. open window, open door exhaust fan etc.) been ensured?	
Has proper signage (display of current voltage/no smoking/other precautionary signs) been displayed in the workshop?	
Have safe exits been ensured in case of fire emergencies when working in confined spaces (e.g. unobstructed door, window, etc.)?	
Has a basic first aid box been provided as part of the asset transfer?	
Has it been ensured that the asset will not be used within a Notified Archaeological Site or Monument?	
Has it been ensured that the asset will not be used within a Protected Area?	
Has it been ensured that no child labour is hired?	
<i>If answer to the above stated environmental and social criterion is 'NO' then the asset cannot be</i>	

transferred.

If all answers are in 'Yes' then ensure that the following recommended practices are disseminated to the beneficiaries before or at the time of asset transfer.

Recommended Practices

Labour:

- Recommend fixing minimum wage as per Pakistan Labour Laws (refer to the current minimum wage)
- Recommend fixed standard working hours at 8 hrs. per person per day.

Electrical wiring in the enterprise/workshop should be securely installed.

Encourage energy conservation/efficient practices such as use of energy saver bulbs, switching off machinery/tools when not in use, properly turning off taps when finished using and other such practices.

Machinery, tools and chemicals when not in use should be stored properly out of reach of children.

Machinery, wiring, and other equipment should be kept clear of walking areas.

Form A: Selection Criteria for Type of Trainings and Institutes

Selection Criteria		Compliance (Yes/No)
Types of Trainings	No trainings can be funded for the processing of addictive substances such as tobacco, <i>gutka</i> , <i>niswar</i> , cigarettes, <i>beeri</i> , <i>hukka</i> , <i>paan parag</i> , <i>sheesha</i> , <i>hashish</i> , <i>bhang</i> , all illegal drugs etc. and any other products containing such substances	
Training Institutes	<i>For all vocational and skills trainings, institutes must include the following in their relevant training modules:</i>	
	Social and legal implications of using child labour	
	Use of protective gear such as gloves, masks, goggles, helmets, welding glasses/shields for handling chemical polishes, paints and machinery	
	Fire Safety – Importance of safe exits in case of emergencies when working in confined spaces. Institute must have a fire safety plan and fire extinguishers.	
	Safe storage and disposal of hazardous liquid and solid waste (e.g. biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) where relevant	
	Importance of using only additives, preservatives and dyes <i>meant for food</i> in food processing/production	
	Importance of hygienic working conditions in food production through the use of disposable gloves, clean utensils, proper washing of raw meat and vegetables etc.	
	Use of first aid box in emergencies	

Chapter 13

MICROFINANCE INTERVENTIONS

Environmental and social safeguards requirements for microfinance interventions are based on the overall objectives of the ESMF. These are in contrast to other grants based interventions, where it is mandatory to fill and file Forms A and B in order to comply with ESMF requirements. For microfinance interventions, safeguards compliance requirements have been prepared keeping in mind average size of loans, the ‘fungibility’ of money and the impact such a support has on the physical environment and the social fabric in question. All these factors and feedback from partners suggested making the safeguard requirements as part of disclosures and client protection mechanisms, where each beneficiary MUST be made aware of his/her environmental and social responsibility. This awareness, and in turn the covenant that the beneficiary signs will ensure compliance to ESMF. ESM Unit and PPAF Financial Services Group (responsible for all microfinance activities) will monitor the compliance closely and critically, and may suggest improvements after the completion of a year.

I. Mainstreaming ESM Protocols in the Microfinance Process

To ensure that the proposed environmental and social safeguards encompass all microfinance activities, the following statement will be added to the Client Protection Principles (all PPAF partners follow these seven Principles as stipulated and agreed by the Pakistan Microfinance Network), and a covenant agreeing to all of these will be signed by the beneficiary:

Environmental and Social Safeguards Awareness. *Providers will ensure clients are made aware of all environmental and social safeguards pertaining to their loan type as well as provide corresponding awareness material.*

The safeguards requirements consist of the following:

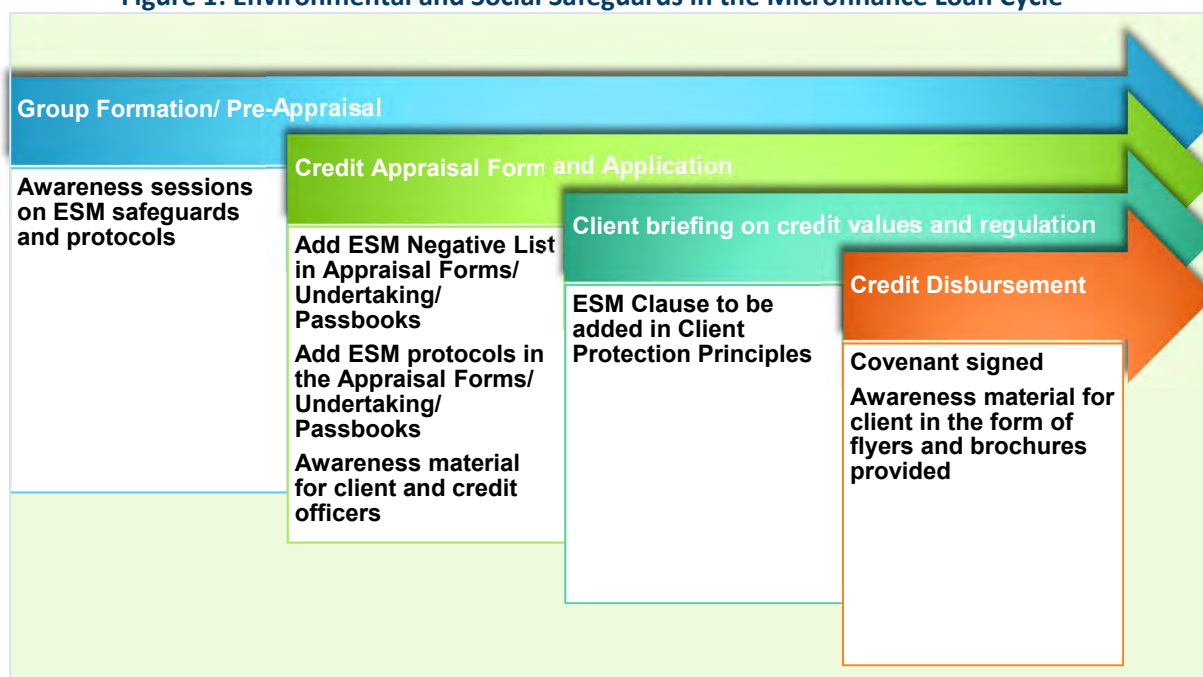
- **ESM Negative List** describing those type of activities for which no loans can be provided under any circumstance, and
- **Table 2** describing compliance requirements which are **mandatory for all loan disbursements**.

Awareness material on environmental and social safeguards for PO staff, and in the form of pictorial brochures and flyers for clients/borrowers will also be disseminated during the loan cycle.

It will be the responsibility of the POs to ensure clients are made aware of the environmental and social safeguards during all phases of the loan cycle. It is required that PO staff will use the safeguards that are ‘**mandatory for all loan types**’, as well as from the **relevant category** (Agriculture/Cropping; Livestock/Poultry/Fish Farming; Handicraft/Cottage; Manufacturing/Light Engineering/Workshop; and Commerce/Retailing/Petty Trading) from **Table 2** during the loan cycle, and use these for monitoring purposes as well.

Details of where the safeguards and associated awareness material must be used in the microfinance loan cycle are shown in **Figure 1**.

Figure 1: Environmental and Social Safeguards in the Microfinance Loan Cycle



II. ESM Negative List for Microfinance

Based on PPAF's Negative List of Activities (see Annexure 6), the Partner Organizations will, under no circumstances, provide loans for the following activities:

- Property/ Real estate development
- Commercial construction
- Hazardous toxic waste, plastic bags, radio-active material
- Tanneries
- Timber, logging, deforestation
- Financial services
- Explosives, armaments, ammunition, mining
- Cultivation/ processing of poppy and/ or other prohibited varieties
- Breweries
- Poaching/ Hunting
- Informal cross-border trade
- Persistently Polluting Pesticides
- Any other pesticides/insecticides banned by the Government or WHO

Additionally, the borrowers will covenant not to engage in:

- Child labor
- Cultivation, processing and sale of poppy and/ or other illegal addictive substances (e.g. heroin, hashish, opium, bhang, alcohol)
- Sale of addictive substances such as tobacco, gutka, niswar, cigarettes, beeri, hukka, paan parag, sheesha and any other products containing such substances to persons under the age of 18
- Illegal wood extraction, hunting, poaching and fishing in Protected Areas

- Informal cross-border trade
- Smuggling or sale and handling of smuggled goods

Table 2 – Compliance Requirements – Environmental and Social Safeguards

Loan Type	Provider should provide clients awareness on:	Client Informed (Yes/No)
Mandatory for all Loan types	Seven Core Principles of Campaign for Client Protection, including statement on Environmental and Social Safeguards Awareness	
	ESM Negative List for Microfinance	
	Hiring of no child under the age of 18 to work in hazardous conditions (pesticide sprays, industrial activity); and no child under the age of 15 should be hired to do any sort of physical exertive labor (general farm labor, mechanic, etc.); and no child under the age of 13 should be hired for ANY type of labor (Child labor is prohibited under the Pakistan Penal Code).	
	Safe disposal of solid waste and use of covered bins for solid waste collection.	
	Prohibition of use of packaging materials such as black polythene, Styrofoam packaging, rusted cans, and unwashed/unsterilized bottles.	
Agriculture/ Cropping	Prohibiting cultivation of crops such as poppy and other prohibited varieties listed in PPAF's Negative List for Microfinance	
	Preventing use of synthetic chemical pesticide sprays.	
Livestock/ Poultry/ Fish Farming	Vaccination of livestock and poultry against diseases that rapidly spread such as 'rani khet'.	
	Preventing introduction of exotic fish species in open water bodies such as natural lakes, ponds etc. (see Annexure 5c: Reference List C for exotic fish species)	
Handicrafts/ Cottage Industry	Prevention of practice of illegal wood extraction by communities residing within the premises of Protected Areas (e.g., national parks and game reserves) for use in wood work/ furniture making (see Reference List A for list of Protected Areas).	
	Safe storage of hazardous liquid and solid waste (e.g. biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) out of reach of children and delivering to disposal sites in secure containers for safe disposal.	
	Use of protective gear such as gloves and masks for handling chemical polishes, dyes and paints.	
	Installation of proper ventilation channels when working with chemicals, paints and polishes in confined spaces (e.g., open window, open door, exhaust fan etc.).	
Commerce/ Retailing/ Petty	Prohibition of processing and sale of illegal drugs and addictive substances (e.g. heroin, hashish, opium, bhang, alcohol).	

Loan Type	Provider should provide clients awareness on:	Client Informed (Yes/No)
Trading	Prohibition of sale of addictive substances such as tobacco, gutka, niswar, cigarettes, beeri, hukka, paan parag, sheesha, etc. and any other products containing such substances to person under the age of 18.	
	Sale of only additives, preservatives and dyes meant for food and derived from natural sources (e.g., salt, vinegar, sugar as preservatives, and spices such as turmeric, tea, flower, fruits etc., as dyes), in food processing/production, otherwise these would serve as health hazards for the consumers.	
	Working in hygienic conditions.	
Manufacturing/ Light Engineering/ Workshop	Safe storage of hazardous liquid and solid waste (e.g. biomedical, heavy metals, CFLs (energy savers), tires, oil, batteries, paint, solvents, acidic solutions, etc.) out of reach of children and delivering to disposal sites in secure containers for safe disposal.	
	Use of protective gear such as goggles, gloves and masks for handling machinery, chemical polishes, dyes and paints.	
	Installation of proper ventilation channels in workshops and when working with chemicals, paints and polishes in confined spaces (e.g., open window, open door, exhaust fan etc.).	
	Ensuring safe exits in case of fire emergencies when working in confined spaces (e.g., unobstructed door, window etc.).	

ANNEXURES



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, sulfur and other minerals not included in Schedule II with total cost less than Rs.100 million
2. Crushing, grinding and separation processes
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

G. Water supply and treatment

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

H. Waste disposal

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

I. Urban development and tourism

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

J. 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

1. Cement plants
2. Chemicals projects
3. Fertilizer plants
4. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost of Rs.100 million and above
5. Industrial estates (including export processing zones)
6. Man-made fibers and resin projects with total cost of Rs.100 M and above
7. Pesticides (manufacture or formulation)
8. Petrochemicals complex
9. 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
10. Tanning and leather finishing projects

C. Mining and mineral processing

1. Mining and processing of coal, gold, copper, sulfur 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

F. Water supply and treatment

Water supply schemes and treatment plants with total cost of Rs.25 million and above.

G. 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.

H. 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.

I. Environmentally Sensitive Areas

All projects situated in environmentally sensitive areas

J. 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

ESMF Mitigation Measures

Form for Voluntarily Donated Land

ESMF in the mitigation measures for social should have the following included in the mitigation table:

“For any donated land, a participatory and transparent process will be followed and an agreement/MOU will be signed between the donor and the recipient that will among other ensure

1. The ownership of the land and voluntary nature of the donation
2. That the land is appropriate for the intended purpose
3. That the land does not belong to any donor who is below the poverty line or whose holding would be reduced below the minimum size as stipulated to be economically viable (2.5 acres)
4. That there are no encumbrances on the land
5. That it does not negatively impact on the livelihood of any vulnerable group, and if so, that community developed mitigation measures are acceptable to the affectees
6. That no compensation will be paid for the land, and
7. That the owner gives up all claims on the land and the title will be transferred to the recipient through the notary public or a registered deed or any other procedure prescribed by the law of the state”.

Water Rights Form

For any water source which is located in an individual’s land the following agreement will be signed.

1. That the person agrees to allow the source of water to be located in his/her land
2. That all persons will have access to the water from the source provided by PPAF
3. That no fees or price will be charged from any eligible community member for use of this water.
4. That at no time will supply be restricted to any person

ESMF Completion Forms for Social Sector Development

Form B: Completion Certificate School (Construction/Renovation)

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
Primary and secondary information has been generated and incorporated in the proposal to confirm that intervention qualifies the minimum criteria		
Design and implementation stage mitigation measures have been implemented		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Implementation Verified By SMC Representative	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implementation Report Checked By	Name: Designation:	Signature: Date:

Form B: Completion Certificate School (Adoption Stage)

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
Primary and secondary information has been generated and incorporated in the proposal to confirm that intervention qualifies the minimum criteria		
All mandatory environmental /social criteria have been implemented at time of Adoption.		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Mitigation measures Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Implementation Verified By SMC Representative	Name: Designation:	Signature: Date:
Implementation Report Checked By	Name: Designation:	Signature: Date:

Form B: Completion Certificate School (Handover Stage)

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
All mitigation measures have been implemented during the management period		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Implementation Verified By SMC Representative	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implementation Report Checked By	Name: Designation:	Signature: Date:

Form B: Completion Certificate BHU/Dispensary (Construction/Renovation)

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
Primary and secondary information has been generated and incorporated in the proposal to confirm that intervention qualifies the minimum criteria		
Design and implementation stage mitigation measures have been implemented		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Implementation Verified By HMC Representative	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implementation Report Checked By	Name: Designation:	Signature: Date:

Form B: Completion Certificate BHU/Dispensary (Adoption Stage)

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
Primary and secondary information has been generated and incorporated in the proposal to confirm that intervention qualifies the minimum criteria		
All mandatory environmental /social criteria have been implemented at time of Adoption.		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Mitigation measures Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Implementation Verified By HMC Representative	Name: Designation:	Signature: Date:
Implementation Report Checked By	Name: Designation:	Signature: Date:

Form B: Completion Certificate BHU/Dispensary (Handover Stage)

Mitigation Measures	Confirmation	In case of non-compliance state reasons
	Write Yes or No	
All mitigation measures have been implemented during the management period		
Environmental/Social Assessment Prepared By	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implemented By	Name: Designation:	Signature: Date:
Implementation Verified By CO Representative	Name: Designation:	Signature: Date:
Implementation Verified By HMC Representative	Name: Designation:	Signature: Date:
Environmental/Social Assessment Implementation Report Checked By	Name: Designation:	Signature: Date:

Guidance Note

Directions to Complete ESMF Forms for Social Sector Development

The Environment and Social Management Framework (ESMF) document outlines a set of environmental and social guidelines for each PPAF intervention. Similarly, a set of guidelines detailing potential perceived environmental and social impacts for a scheme of School and BHU/dispensary are also included in the ESMF.

Corresponding Form A and Form B (Completion Certificate) are also developed with each set of guidelines that ensures compliance for every PPAF scheme for all potential environmental and social impacts. Details on when and how to complete Form A and Form B (Completion Certificate) for School and BHU/Dispensary schemes have been presented in **Table 3**:

Table 3 – Form A and B Completion Requirements

SCHOOLS	
Form Title	Explanation
Form A: ESR for School (Construction/Renovation)	<p>This form is required to be completed for each School that is being constructed/renovated. Form A has been developed like a checklist and all environmental and social criteria are based on the guidelines provided.</p> <p>A set of environmental and social criteria needs to be met at the proposal stage. If answer to any of the criteria is NO then the PO representative should work to include the required criteria in the proposal. Proposal will not be accepted in case of non-compliance to any of the stated criteria at proposal stage.</p> <p>Simply report compliance against each criterion by answering yes/no.</p> <p>If the answer to all criteria is ‘yes’, then ensure that the project proposal contains the ESR (Form A) with the completed section of environmental and social criteria that need to be met during the design and implementation stages. PO representative should ensure compliance to each stated criteria in the project design.</p> <p>A copy of the completed form should be maintained in both PO and CO project files.</p>
Form B: Completion Certificate ESR for School (Construction/Renovation)	<p>This form is required to be completed for each School that is being constructed/renovated. The form will be completed once the construction/renovation has been completed.</p> <p>PO representative should ensure compliance to each stated criteria at both proposal, and design and implementation stages.</p> <p>Completion of the scheme should be verified by a PO representative and should be documented by signing the Form B under “Implementation Report Checked By”.</p> <p>Form B also needs to be signed by:</p> <ul style="list-style-type: none"> (i) a person who prepared the environment/social assessment (Form A), (ii) a person who implemented the environmental/social assessment (Form A), (iii) CO representative who verified the implementation,

	<p>(iv) SMC representative who verified the implementation A copy of the completed form should be maintained in both PO and CO project files.</p>
Form A: ESR for School (Adoption/Management)	<p>This form is required to be completed for each School that is being adopted/managed. Form A has been developed like a checklist and all environmental and social criteria are based on the guidelines provided.</p> <p>A set of environmental and social criteria needs to be met at the adoption stage. If answer to any of the criteria is NO then the PO representative should work to include the required criteria in the proposal. Proposal will not be accepted in case of non-compliance to any of the stated criteria at adoption stage.</p> <p>Simply report compliance against each criterion by answering yes/no.</p> <p>If the answer to all criteria is 'yes', then ensure that the project proposal contains the ESR (Form A) with the completed section of environmental and social criteria that need to be met during the management period. PO representative should ensure compliance to each stated criteria during the management period.</p> <p>A copy of the completed form should be maintained in both PO and CO project files.</p>
Form B: Completion Certificate ESR for School (Adoption Stage)	<p>This form is required to be completed for each School that is being adopted/managed. This form will be completed once all criteria have been met for the adoption stage.</p> <p>Compliance for each criterion at adoption stage should be verified by the PO representative and documented by signing the Form B specified for Adoption Stage under "Implementation Report Checked By".</p> <p>Form B also needs to be signed by:</p> <ul style="list-style-type: none"> (i) a person who prepared the environment/social assessment (Form A), (ii) a person who implemented the environment/social assessment (Form A), (iii) CO representative who verified the implementation, (iv) SMC representative who verified the implementation <p>A copy of the completed form should be maintained in both PO and CO project files.</p>
Form B: Completion Certificate ESR for School (Handover Stage)	<p>This form is required to be completed for each School that is being adopted/managed. This form will be completed once all environmental and social criteria have been met during the management period and the School is ready for handover to the community/govt.</p> <p>Compliance for each criterion to be completed during the management period should be verified by the PO representative and documented by signing the Form B specified for Handover Stage under "Implementation Report Checked by".</p> <p>Form B also needs to be signed by:</p> <ul style="list-style-type: none"> (i) a person who prepared the environment/social assessment (Form A), (ii) a person who implemented the environment/social assessment (Form A),

	<p>(iii) CO representative who verified the implementation, (iv) SMC representative who verified the implementation A copy of the completed form should be maintained in both PO and CO project files.</p>
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BHU/Dispensary	
Form Title	Explanation
Form A: ESR for BHUs/Dispensary (Construction/Renovation)	<p>This form is required to be completed for each BHU/Dispensary that is being constructed/renovated. Form A has been developed like a checklist and all environmental and social criteria are based on the guidelines provided.</p> <p>A set of environmental and social criteria needs to be met at the proposal stage. If answer to any of the criteria is NO then the PO representative should work to include the required criteria in the proposal. Proposal will not be accepted in case of non-compliance to any of the stated criteria at proposal stage.</p> <p>Simply report compliance against each criterion by answering yes/no.</p> <p>If the answer to all criteria is 'yes', then ensure that the project proposal contains the ESR (Form A) with the completed section of environmental and social criteria that need to be met during the design and implementation stages. PO representative should ensure compliance to each stated criteria in the project design.</p> <p>A copy of the completed form should be maintained in both PO and CO project files.</p>
Form B: Completion Certificate ESR BHUs/Dispensary (Construction/Renovation)	<p>This form is required to be completed for each BHU/Dispensary that is being constructed/renovated. The form will be completed once the construction/renovation has been completed.</p> <p>PO representative should ensure compliance to each stated criteria at both proposal, and design and implementation stages.</p> <p>Completion of the scheme should be verified by a PO representative and should be documented by signing the Form B under "Implementation Report Checked By".</p> <p>Form B also needs to be signed by:</p> <ul style="list-style-type: none"> (i) a person who prepared the environment/social assessment (Form A), (ii) a person who implemented the environmental/social assessment (Form A), (iii) CO representative who verified the implementation, (iv) HMC representative who verified the implementation <p>A copy of the completed form should be maintained in both PO and CO project files.</p>
Form A: ESR for BHUs/Dispensary (Adoption/Management)	<p>This form is required to be completed for each BHU/Dispensary that is being adopted/managed. Form A has been developed like a checklist and all environmental and social criteria are based on the guidelines provided.</p> <p>A set of environmental and social criteria needs to be met at the adoption stage. If answer to any of the criteria is NO then the PO representative should work to include the required criteria in the proposal. Proposal will not be accepted in case of non-compliance to</p>

	<p>any of the stated criteria at adoption stage. Simply report compliance against each criterion by answering yes/no. If the answer to all criteria is 'yes', then ensure that the project proposal contains the ESR (Form A) with the completed section of environmental and social criteria that need to be met during the management period. PO representative should ensure compliance to each stated criteria during the management period. A copy of the completed form should be maintained in both PO and CO project files.</p>
<p>Form B: Completion Certificate ESR for BHUs/Dispensary (Adoption Stage)</p>	<p>This form is required to be completed for each BHU/Dispensary that is being adopted/managed. This form will be completed once all criteria have been met for the adoption stage. Compliance for each criterion at adoption stage should be verified by the PO representative and documented by signing the Form B specified for Adoption Stage under "Implementation Report Checked By". Form B also needs to be signed by: (i) a person who prepared the environment/social assessment (Form A), (ii) a person who implemented the environment/social assessment (Form A), (iii) CO representative who verified the implementation, (iv) HMC representative who verified the implementation A copy of the completed form should be maintained in both PO and CO project files.</p>
<p>Form B: Completion Certificate ESR for BHUs/Dispensary (Handover Stage)</p>	<p>This form is required to be completed for each BHU/Dispensary that is being adopted/managed. This form will be completed once all environmental and social criteria have been met during the management period and the School is ready for handover to the community/govt. Compliance for each criterion to be completed during the management period should be verified by the PO representative and documented by signing the Form B specified for Handover Stage under "Implementation Report Checked by". Form B also needs to be signed by: (i) a person who prepared the environment/social assessment (Form A), (ii) a person who implemented the environment/social assessment (Form A), (iii) CO representative who verified the implementation, (iv) HMC representative who verified the implementation A copy of the completed form should be maintained in both PO and CO project files.</p>

Reference List A: Protected Areas

Protected Areas are defined as areas dedicated to the protection and maintenance of biological diversity, as well as natural and associated cultural resources. These areas are mostly managed through the legal framework of a country.

Pakistan has a total of 334 Protected Areas which include National Parks, Game Reserves, Wildlife Sanctuaries, Wildlife Parks and Wildlife Refuges. A list of these Protected Areas and their corresponding locations on a map are given below.

- **National Parks** are established with the objective to protect and conserve areas of exceptional geographical, biological and cultural importance for educational, recreational and scientific uses.
- **Game Reserves** are areas where controlled hunting is allowed on permit basis. Most of these reserves have been created to provide habitat protection to animal species.
- **Wildlife Sanctuaries** are undisturbed breeding grounds, for the protection of all natural resources. Public access to these areas is restricted or regulated.



Protected Areas have specific ecosystems and life cycles, which if disturbed even slightly can lead to the degradation of the system. These systems are made up of different components such as animal and bird species, insects, plants, trees, microclimate, soil and groundwater, which must not be altered. It is therefore essential that the integrity of the system is maintained, and the links established between the different components are not broken or changed.

Protected Areas also have various economic benefits, the most important of which is water. Most protected forests of Pakistan like those of Ayubia National Park and Machiara National Park are also major watersheds to local springs and rivulets. In other cases, the protected forests of Swat and Kaghan Valley serve as the catchment towards the River Indus. Protected Areas are also a source of medicinal plants, vegetation, types of fodder etc. that provide livelihood options and support to surrounding communities.

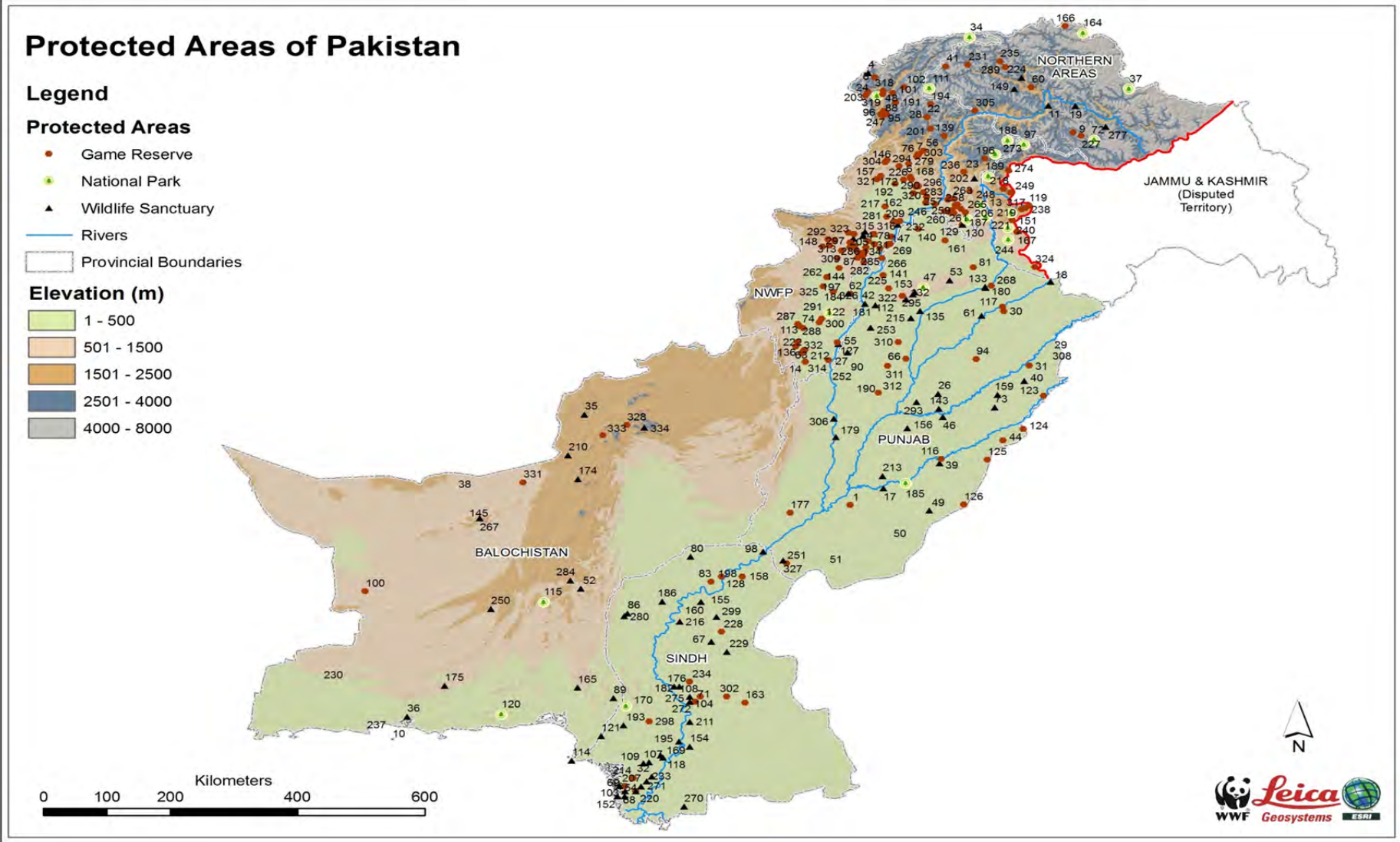
Due to the biological and economic importance of Protected Areas, all development activities taking place in or near the areas should be dealt with extra care. Though existing wildlife laws provide a framework for the management of Protected Areas, these laws do not cover the management of adjacent areas. Therefore, development activities in areas adjacent to Protected Areas often also conflict with biodiversity conservation and can be critical to the viability of these areas. If not addressed properly, development activities in or near Protected Areas can result in the loss, fragmentation and degradation of habitats, and the ultimate destruction of the Protected Areas,

which could also lead to disasters such as floods and landslides, and the loss of livelihoods dependent directly or indirectly on the products and services of Protected Areas.

All PPAF funded interventions that are located in or adjacent to Protected Areas must therefore be dealt differently and appropriate precautions must be taken. Perceived impacts from development activities can include but are not limited to the following:

- Habitat fragmentation due to construction of link roads and bridges
- Reductions in groundwater table and deteriorated water quality due to water resources development schemes such as tube wells, hand pumps, open wells, water channels, watercourses etc.
- Disturbance to animal and bird species due to windmills, micro-hydropower, community lighting schemes, jetty etc. that can affect the life cycle functions of various species of the area
- Loss of habitat for wildlife due to encroachment by domesticated grazing animals such as goats, sheep and cows.
- Impacts on availability of food for wildlife due to overharvesting of plants and trees by communities.

Reference List A: Protected Areas of Pakistan



Protected Areas of Pakistan

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
1	Abbasia	Game Reserve	Punjab	Rahim Yar Khan	Liaquat Pur	10067	71.078115	29.098938
2	Abbasia Reserved Forest	Unclassified	Punjab			0	0.000000	0.000000
3	Adenzai	Community Game Reserve	Khyber Pakhtunkhwa	Lower Dir	Temergara	24282	72.048717	34.718383
4	Agram Basti	Wildlife Sanctuary	Khyber Pakhtunkhwa	Chitral	Chitral	29866	71.565039	36.282225
5	Alam Gang	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	1040	71.444632	33.382094
6	Amluk Banr	Community Game Reserve	Khyber Pakhtunkhwa	Buner	Daggar	46	72.234252	34.535637
7	Amluk Banr	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Matta	46	72.395144	34.898992
8	Arkari	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	100000	71.676661	36.204125
9	Askor Nullah	Game Reserve	Gilgit-Baltistan	Diamir	Astore	12959	75.066700	35.166700
10	Astola Island	Unclassified	Balochistan	Gwadar	Pasni	50	63.866700	25.116700
11	Astore	Wildlife Sanctuary	Gilgit-Baltistan	Diamir	Astore	41440	74.666700	35.633300
12	Attari GR(degazetted)	Unclassified				0	0.000000	0.000000
13	Ayubia	National Park	Khyber Pakhtunkhwa	Abbottabad	Abbottabad	3300	73.412711	34.032083

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
14	Babar	Community Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	55	70.390054	31.488941
15	Baga hills	Community Game Reserve	Khyber Pakhtunkhwa	Swabi	Swabi	61	72.445622	34.275956
16	Bagra	Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	2560	73.074617	33.977886
17	Bahawalpur Plantation/Bahwalpur	Wildlife Sanctuary	Punjab	Bahawalpur	Bahawalpur	541	71.617549	29.365663
18	Bajwat	Wildlife Sanctuary	Punjab	Sialkot	Sialkot	5464	74.510824	32.712255
19	Baltistan	Wildlife Sanctuary	Gilgit-Baltistan	Baltistan	Skardu	41440	75.133300	35.600000
20	Balyamin	Game Reserve	Khyber Pakhtunkhwa	Hangu	Hangu	7090	70.908864	33.506861
21	Banda Lakkana	Community Game Reserve	Khyber Pakhtunkhwa	Karak	Karak	2195	71.297072	33.209636
22	Barh	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	25000	72.563975	35.522133
23	Battal	Community Game Reserve	Khyber Pakhtunkhwa	Mansehra	Mansehra	32	73.149172	34.588694
24	Begusht	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	8000	71.510383	35.903267
25	Besak	Community Game Reserve	Khyber Pakhtunkhwa	Swabi	Swabi	530	72.636831	34.072311
26	Bhagat Reserve Forest	Wildlife Sanctuary	Punjab	Toba Tek Singh	Toba Tek Singh	248	72.558691	30.916242

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
27	Bhakkar Forest Plantatio	Wildlife Sanctuary	Punjab	Bhakkar	Bhakkar	2100	71.084251	31.637025
28	Bhan	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	25000	72.563975	35.522133
29	Bheni	Unclassified	Punjab	Sheikhupura	Ferozewala	0	74.472812	31.710243
30	Bhon Fazil	Game Reserve	Punjab	Gujranwala	Wazirabad	2650	73.708049	32.252906
31	Bhono	Game Reserve	Punjab	Lahore	Lahore City	2068	74.084477	31.333971
32	Bijoro Chach	Wildlife Sanctuary	Sindh	Thatta	Thatta	121	67.916700	24.583300
33	Boraka	Wildlife Sanctuary	Khyber Pakhtunkhwa	Kohat	Kohat	2025	71.230608	33.532419
34	Broghil	National Park	Khyber Pakhtunkhwa	Chitral		134744	73.370571	36.819195
35	Bund Khush Dil Khan	Wildlife Sanctuary	Balochistan	Killa Abdullah	Gulistan	1296	66.750000	30.600000
36	Buzi-Makola	Wildlife Sanctuary	Balochistan	Gwadar	Pasni	145101	64.083300	25.500000
37	Central Karakoram	National Park	Gilgit-Baltistan	Baltistan	Shigar	973845	76.083300	35.833300
38	Chagai-Seistan Desert	Unclassified	Balochistan	Chagai	Dalbandin	0	64.733300	29.300000
39	Chak Kotora Reserve Fore	Wildlife Sanctuary	Punjab	Bahawalpur	Hasilpur	529	72.539681	29.760892
40	Changa Manga Plantation	Wildlife Sanctuary	Punjab	Kasur	Chunian	5005	73.983300	31.083300
41	Chashi/Bawaster	Game Reserve	Gilgit-Baltistan	Ghizer	Gupis/Yasin	37037	72.932130	36.352912
42	Chashma Barrage	Wildlife Sanctuary	Punjab	Mianwali	Piplan	32700	71.398537	32.444943
43	Chaubara-Mankeera	Unclassified				0	0.000000	0.000000
44	Chaupalia_?	Game Reserve	Punjab	Bahawalnagar	Minchinabad	9857	73.592097	30.111340

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
45	Cherat	Wildlife Park	Khyber Pakhtunkhwa	Nowshera	Nowshera	0	71.912206	33.827178
46	Chichawatni Forest Plant	Wildlife Sanctuary	Punjab	Sahiwal	Chichawatni	4612	72.620958	30.531781
47	Chinji	National Park	Punjab	Chakwal	Tala Gang	6070	72.377935	32.692370
48	Chitral Gol	National Park	Khyber Pakhtunkhwa	Chitral	Chitral	7750	71.703500	35.891761
49	Cholistan-I	Wildlife Sanctuary	Punjab	Bahawalpur	Yazman	2033	72.350816	28.978043
50	Cholistan-II	Unclassified	Punjab	Bahawalpur	Yazman	0	71.757956	28.518175
51	Cholistan-III	Unclassified	Punjab	Rahim Yar Khan	Liaquat Pur	0	70.723927	28.104038
52	Chorani	Wildlife Sanctuary	Balochistan	Khuzdar	Khuzdar	19433	66.750000	27.700000
53	Chumbi-Surla	Wildlife Sanctuary	Punjab	Chakwal	Chakwal	55296	72.826536	32.799692
54	Cut Munarki Chach	Wildlife Sanctuary	Sindh	Thatta	Ghorabari	405	67.500000	24.250000
55	D.I. Khan Waterfowl	Wildlife Reguge	Khyber Pakhtunkhwa	D. I. Khan	D. I. Khan	3774	70.933039	31.781619
56	Dad Manpithai	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	730	72.475517	34.964131
57	Daggar	Unclassified				0	0.000000	0.000000
58	Daluana	Game Reserve	Punjab			2314	0.000000	0.000000
59	Daman Reserved Forest	Unclassified				0	0.000000	0.000000
60	Danyor Nallah	Game Reserve	Gilgit-Baltistan	Gilgit	Gilgit	44289	74.400000	35.950000
61	Daphar Reserve Forest	Wildlife Sanctuary	Punjab			2897	73.334545	32.195214

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
62	Dara Tang Mouza Chowki jand	Community Game Reserve	Khyber Pakhtunkhwa	Lakki Marwat	Lakki Marwat	300	71.161828	32.610426
63	Darban Kalan	Private Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	178	70.230725	31.744000
64	Darmalak	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	9788	71.256364	33.412428
65	Darwazai Banda	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	1000	71.444631	33.380125
66	Daulana	Game Reserve	Punjab	Jhang	Jhang	2314	72.054963	31.512156
67	Deh Akro-II	Wildlife Sanctuary	Sindh	Khairpur	Nara	20243	68.833300	26.833300
68	Deh Jangisar	Game Reserve	Sindh	Thatta	Ghorabari	429	67.666834	24.333457
69	Deh Jangisar	Game Reserve	Sindh	Thatta	Mirpur Sakro	314	67.500000	24.416700
70	Deh Khalifa	Game Reserve	Sindh	Thatta	Ghorabari	429	67.666700	24.333300
71	Deh Sahib Saman	Game Reserve	Sindh	Sanghar	Tando Adam	349	68.580000	25.829722
72	Deosai Plains	National Park	Gilgit-Baltistan	Baltistan	Skardu	363600	75.413266	35.021440
73	Depalpur Plantation	Wildlife Sanctuary	Punjab	Okara	Okara	2850	73.477006	30.661291
74	Dewan Shah	Community Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	821	70.300194	32.079875
75	Dhandidal Khel	Community Game Reserve	Khyber Pakhtunkhwa	Karak	Karak	3564	71.388600	33.247092
76	Dheran Pattay	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Matta	735	72.399558	34.912392

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
77	Dhoda	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	3900	71.488064	33.479219
78	Dhok Dheri	Private Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	202	71.852675	33.430569
79	Dhok Loharan	Private Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	364	71.836608	33.424139
80	Dhoungh Block	Wildlife Sanctuary	Sindh	Jacobabad	Thul	2098	68.500000	28.250000
81	Diljabba-Domeli	Game Reserve	Punjab	Jhelum	Sohawa	116736	73.235266	32.996882
82	Dograyon Lake	Wildlife Sanctuary	Sindh			648	0.000000	0.000000
83	Dosu Forest	Game Reserve	Sindh	Shikarpur	Lakhi	2312	68.833300	27.833300
84	Dowrro/Algada	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	1477	71.247839	33.605525
85	Drabo Kach	Private Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	2993	71.676150	33.353428
86	Drigh Lake	Wildlife Sanctuary	Sindh	Dadu	Mehar	164	67.500000	27.300000
87	Drish Khel	Community Game Reserve	Khyber Pakhtunkhwa	Karak	Banda Daud Shah	2705	70.952583	33.207950
88	Drosh Gol	Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	2060	71.795131	35.560167
89	Dureji	Wildlife Sanctuary	Balochistan	Lasbela	Dureji	178259	67.300000	25.883300
90	Fatah Major Forest Plantation	Unclassified	Punjab	Bhakkar	Bhakkar	0	71.086839	31.385385
91	Fateh Major Forest Plant	Wildlife Sanctuary	Punjab			1255	0.000000	0.000000

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
92	Garu Amankot	Community Game Reserve	Khyber Pakhtunkhwa	Mardan	Mardan	1214	72.365039	34.372819
93	Garyalla Karmar	Community Game Reserve	Khyber Pakhtunkhwa	Mardan	Mardan	760	72.268483	34.262853
94	Gat Wala	Game Reserve	Punjab	Faisalabad	Faisalabad Sadar	5883	73.210655	31.470582
95	Gehrait	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	95000	71.810753	35.643211
96	Gehrait Gol	Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	4800	71.761519	35.586375
97	Ghamot	National Park	P.A.K.	Neelum	Athmuqam	27271	74.200000	35.000000
98	Ghandak Dhoru	Wildlife Sanctuary	Punjab	Rahim Yar Khan	Sadiqabad	31	69.666700	28.333300
99	Ghurzandi	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	6649	71.174556	33.383164
100	Gogi	Game Reserve	Balochistan	Kharan	Mashkhel	10364	63.331166	27.559744
101	Goleen Gol	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	40800	71.983725	35.937172
102	Goleen Gol	Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	49750	72.180933	36.030214
103	Gullel Kohri	Wildlife Sanctuary	Sindh	Thatta	Ghorabari	40	67.500000	24.333300
104	Gulsher Dhand	Wildlife Sanctuary	Sindh	Sanghar	Shahdadpur	24	68.500000	25.916700
105	Gurlangi	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	35	71.174571	33.385137

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
106	Gut Raisani	Wildlife Sanctuary	Balochistan			165992	0.000000	0.000000
107	Hadero Lake	Wildlife Sanctuary	Sindh	Thatta	Thatta	1321	67.866700	24.816700
108	Hala	Game Reserve	Sindh	Sanghar	Tando Adam	954	68.666700	25.916700
109	Haleji Lake	Wildlife Sanctuary	Sindh	Thatta	Thatta	1704	67.783300	24.800000
110	Hamoli Reserve Forest	Wildlife Sanctuary	Punjab			889	0.000000	0.000000
111	Handrap Shandhoor	National Park	Gilgit-Baltistan	Ghizer	Gupis/Yasin	51800	72.616700	36.000000
112	Harnoli Reserve Forest	Unclassified	Punjab	Mianwali	Piplan	0	71.526434	32.300954
113	Hatala	Private Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	360	70.363489	32.052264
114	Hawks Bay/Sandspit Beach	Wildlife Sanctuary	Sindh	Karachi West	Karachi West	324	66.666700	24.833300
115	Hazar Ganji-Chiltan	National Park	Balochistan	Khuzdar	Naal	15555	66.166667	27.466667
116	Head Islam/Chak Kotora	Game Reserve	Punjab	Bahawalnagar	Chishtian	3132	72.569776	29.830067
117	Head Qadirabad	Game Reserve	Punjab	Gujranwala	Wazirabad	2816	73.689939	32.324630
118	Hilaya	Wildlife Sanctuary	Sindh	Thatta	Thatta	324	68.083300	24.900000
119	Hillan	Game Reserve	P.A.K.	Bagh	Haveli	424	74.233300	33.983300
120	Hingol	National Park	Balochistan	Awaran	Awaran	619043	65.550000	25.583300
121	Hub Dam	Wildlife Sanctuary	Sindh	Malir	Malir	27219	67.116700	25.250000
122	hussianzai	Community Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	35	70.670034	32.204857
123	Indo-Pak Border-I	Game Reserve	Punjab	Kasur	Kasur	0	74.293306	30.824394

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
124	Indo-Pak Border-II	Game Reserve	Punjab	Bahawalnagar	Minchinabad	0	73.930587	30.281659
125	Indo-Pak Border-III	Game Reserve	Punjab	Bahawalnagar	Bahawalnagar	0	73.322876	29.796861
126	Indo-Pak Border-IV	Game Reserve	Punjab	Bahawalnagar	Fortabbas	0	72.910678	29.059064
127	Indus River	Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	D. I. Khan	81000	70.924344	31.804392
128	Indus River # 2	Game Reserve	Sindh	Sukkur	Pano Aqil	44200	69.000000	27.916700
129	Islamabad	Game Reserve	Islamabad	Islamabad	Islamabad	69800	73.083300	33.716700
130	Islamabad2	Wildlife Sanctuary	Islamabad	Islamabad	Islamabad	7000	73.083300	33.716700
131	Jabbar	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	13288	71.871431	33.548075
132	Jahlar Lake	Wildlife Sanctuary	Punjab	Khushab	Khushab	17	72.082602	32.499220
133	Jalalpur Sharif Forest	Wildlife Sanctuary	Punjab	Jhelum	Pind Dadan Khan	2236	73.412115	32.668729
134	Jatta Ismail Khel	Community Game Reserve	Khyber Pakhtunkhwa	Karak	Banda Daud Shah	2826	71.279719	33.334142
135	Jauharabad Reserve Fores	Wildlife Sanctuary	Punjab	Khushab	Khushab	394	72.310066	32.300271
136	Jhandar Abdul Sattar	Private Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	0	70.327292	31.629997
137	kachai Marai	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	7090	71.152333	33.632072
138	Kachua	Wildlife Sanctuary				21660	0.000000	0.000000

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
139	Kaighah Nullah	Community Game Reserve	Khyber Pakhtunkhwa	Kohistan	Pattan	5000	72.846675	35.198492
140	Kala Chitta	Game Reserve	Punjab	Attock	Attock	131072	72.333300	33.666700
141	Kalabagh Game Reserve	Private Game Reserve	Punjab	Mianwali	Mianwali	1550	71.718082	32.912885
142	Kalinjar	Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	2000	72.879514	34.167139
143	Kamalia Plantation	Wildlife Sanctuary	Punjab	Toba Tek Singh	Kamalia	4346	72.559813	30.664486
144	Kamar	Community Game Reserve	Khyber Pakhtunkhwa	Karak	Takhat Nasrati	5096	70.984881	33.041469
145	Kambran	Unclassified	Balochistan	Chagai	Dalbandin	0	64.926944	28.826111
146	Kamrani	Game Reserve	Khyber Pakhtunkhwa	Lower Dir	Temergara	2119	71.813875	34.788586
147	Kandar Dam	Unclassified	Khyber Pakhtunkhwa	Kohat	Kohat	251	71.822735	33.551920
148	Kanra Cheenah	Community Game Reserve	Khyber Pakhtunkhwa	Hangu	Hangu	359	70.705094	33.402244
149	Kargah	Wildlife Sanctuary	Gilgit-Baltistan	Gilgit	Gilgit	44289	74.100000	35.933300
150	Kathar	Game Reserve	Islamabad	Islamabad	Islamabad	1128	73.116700	33.750000
151	Kazinag	Game Reserve	P.A.K.	Poonch	Hajira	0	73.927542	33.759472
152	Keti Bunder North	Wildlife Sanctuary	Sindh	Thatta	Ghorabari	8948	67.383300	24.250000
153	Khabbeke Lake	Wildlife Sanctuary	Punjab	Khushab	Khushab	283	72.233300	32.616700

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
154	Khadi	Wildlife Sanctuary	Sindh	Hyderabad	Tando Muhammad Khan	81	68.500000	25.083300
155	Khairpur Game Reserve	Unclassified	Sindh	Khairpur	Khairpur	0	68.783300	27.533300
156	Khanewal Plantation	Wildlife Sanctuary	Punjab	Khanewal	Khanewal	7129	72.036175	30.357754
157	Khanori	Community Game Reserve	Khyber Pakhtunkhwa	Malakand PA	Swat Rani Zai	1300	71.657919	34.508911
158	Khanpur	Unclassified	Sindh	Ghotki	Khangarh	0	69.400000	27.866700
159	Kharar Lake	Wildlife Sanctuary	Punjab	Okara	Okara	232	73.533832	30.871103
160	Khat Dhoru	Wildlife Sanctuary	Sindh	Khairpur	Khairpur	11	68.666700	27.500000
161	Kheri Murat	Game Reserve	Punjab	Attock	Fateh Jang	5553	72.778304	33.463312
162	Kheshki Reservoir	Unclassified	Khyber Pakhtunkhwa	Nowshera	Nowshera	263	72.029290	34.025047
163	Khipro Forest	Game Reserve	Sindh	Sanghar	Khipro	3885	69.366700	25.816700
164	Khunjerab	National Park	Gilgit-Baltistan	Gilgit	Hunza	227143	75.362049	36.801582
165	Khurkhera	Wildlife Sanctuary	Balochistan	Lasbela	Bela	18345	66.733300	26.050000
166	Kilik/Mintaka	Game Reserve	Gilgit-Baltistan	Gilgit	Hunza	65009	75.066700	36.933300
167	Killan	Game Reserve	P.A.K.	Kotli	Kotli	423	73.998539	33.556489
168	kingar Gali	Game Reserve	Khyber Pakhtunkhwa	Buner	Daggar	20300	72.241208	34.511022
169	Kinjhar (Kalri) Lake	Wildlife Sanctuary	Sindh	Thatta	Thatta	13468	68.050000	24.933300
170	Kirthar	National Park	Sindh	Dadu	Thano Bula Khan	308733	67.500000	25.750000

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
171	Koh-e-Geish	Wildlife Sanctuary	Balochistan			24356	0.000000	0.000000
172	Kohi Barmool	Community Game Reserve	Khyber Pakhtunkhwa	Mardan	Mardan	1822	72.113614	34.492072
173	Kohi Dara	Community Game Reserve	Khyber Pakhtunkhwa	Mardan	Mardan	202	72.323972	34.365542
174	Koh-I-Surkho	Wildlife Sanctuary	Balochistan	Mastung	Mastung	0	66.666700	29.523300
175	Kolwah Kap	Wildlife Sanctuary	Balochistan	Awaran	Awaran	33198	64.650000	26.033300
176	Kot Dinghano	Wildlife Sanctuary	Sindh	Nawabshah	Sakrand	30	68.250000	26.083300
177	Kot Sabzal	Game Reserve	Punjab	Rajanpur	Rojhan	10000	70.108433	28.978862
178	Kotal	Wildlife Park	Khyber Pakhtunkhwa	Kohat	Kohat	100	71.431403	33.639647
179	Kotla Issan Reserve Fore	Wildlife Sanctuary	Punjab	Muzaffargarh	Kot Addu	2152	70.865957	30.230509
180	Kundal Rakh	Wildlife Sanctuary	Punjab	Jhelum	Pind Dadan Khan	2964	73.418177	32.650868
181	Kundian Plantation	Wildlife Sanctuary	Punjab	Mianwali	Piplan	7710	71.569158	32.417989
182	Lakhat	Wildlife Sanctuary	Sindh	Nawabshah	Sakrand	101	68.333300	26.083300
183	Lakhi	Wildlife Sanctuary				101	0.000000	0.000000
184	Lakki Crane Refuge	Wildlife Reguge	Khyber Pakhtunkhwa	Lakki Marwat	Lakki Marwat	5180	71.123017	32.619514
185	Lal Suhanra	National Park	Punjab	Bahawalpur	Khairpur Tamewali	51588	71.985069	29.439361
186	Langh (Lungh) Lake	Wildlife Sanctuary	Sindh	Larkana	Kambar Ali Khan	19	68.050000	27.500000
187	Lohi Bher Forest	Wildlife Sanctuary	Islamabad	Islamabad	Islamabad	355	73.083300	33.716700

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
188	Lulusar&Dodipath	National Park	Khyber Pakhtunkhwa	Mansehra	Bala Kot	30376	73.928208	35.081933
189	Machiara	National Park	P.A.K.	Muzaffarabad	Muzaffarabad	13593	73.566700	34.500000
190	Machu / Inayat Reserve Forest	Unclassified	Punjab	Leiah	Leiah	0	71.213748	30.936758
191	Madaklasht	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	14500	72.029500	35.778203
192	Mahal Kalu	Community Game Reserve	Khyber Pakhtunkhwa	Mardan	Takht Bhai	506	71.969569	34.429756
193	Mahal Kohistan	Wildlife Sanctuary	Sindh	Dadu	Thano Bula Khan	70577	67.466700	25.433300
194	Mahodand (Kalam)	Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	22000	72.635423	35.730658
195	Majiran	Wildlife Sanctuary	Sindh	Thatta	Thatta	24	68.333300	25.166700
196	Makhnial	Game Reserve	Khyber Pakhtunkhwa	Mansehra	Bala Kot	4148	73.527053	34.799675
197	Malugul Dhand	Unclassified	Khyber Pakhtunkhwa	Lakki Marwat	Lakki Marwat	405	70.980011	32.636889
198	Mando Dero	Game Reserve	Sindh	Ghotki	Ghotki	1234	69.333300	27.916700
199	Mang	Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	4350	72.946289	33.914761
200	Manglot	Wildlife Park	Khyber Pakhtunkhwa	Nowshera	Nowshera	715	71.984322	33.747333

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
201	Mankial	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	13063	72.616856	35.326989
202	Manshi	Wildlife Sanctuary	Khyber Pakhtunkhwa	Mansehra	Bala Kot	2321	73.321181	34.478153
203	Manur	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	6200	71.552550	35.966942
204	Maraiwan	Game Reserve	Khyber Pakhtunkhwa			5300	0.000000	0.000000
205	Marchungee	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	4400	71.582300	33.428531
206	Margalla Hills	National Park	Islamabad	Islamabad	Islamabad	17386	73.166700	33.800000
207	Marho Kohri	Wildlife Sanctuary	Sindh	Thatta	Mirpur Sakro	162	67.416700	24.416700
208	Mari Chak Reserve Forest	Unclassified	Punjab			0	0.000000	0.000000
209	Maroba	Game Reserve	Khyber Pakhtunkhwa	Nowshera	Nowshera	3520	71.938164	33.793422
210	Maslakh	Wildlife Sanctuary	Balochistan	Quetta	Panjpai Sub-Tehsil	46559	66.500000	29.916700
211	Miani Dhand	Wildlife Sanctuary	Sindh	Hyderabad	Matiari	57	68.500000	25.500000
212	Michen Khel	Community Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	30	70.382667	31.686871
213	Miranpur Reserve Forest	Wildlife Sanctuary	Punjab	Lodhran	Lodhran	760	71.609288	29.570678
214	Mirpur Sakro	Game Reserve	Sindh	Thatta	Mirpur Sakro	777	67.633300	24.550000
215	Mitha Tiwana Plantation	Wildlife Sanctuary	Punjab	Khushab	Khushab	1103	72.152989	32.190925

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
216	Mohahat Dero	Wildlife Sanctuary	Sindh	Naushahro Feroze	Kandiario	16	68.333300	27.166700
217	Mohib Banda	Community Game Reserve	Khyber Pakhtunkhwa	Nowshera	Nowshera	27	71.787756	34.054236
218	Moji	Game Reserve	P.A.K.	Muzaffarabad	Hattian	3877	73.816700	34.283300
219	Mori Said Ali	Game Reserve	P.A.K.	Bagh	Haveli	244	74.100000	33.933300
220	Munarki	Wildlife Sanctuary	Sindh	Thatta	Ghorabari	12	67.666700	24.333300
221	Muree Kotli Satian	National Park	Punjab			0	73.481611	33.835213
222	Musazai	Private Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	28	70.363489	31.684994
223	Musk Deer Gorez	National Park	P.A.K.			52816	0.000000	0.000000
224	Naltar	Wildlife Sanctuary	Gilgit-Baltistan	Gilgit	Gilgit	27195	74.233300	36.116700
225	Namal Lake	Game Reserve	Punjab	Mianwali	Mianwali	480	71.805091	32.687919
226	Nanser Kuhay	Community Game Reserve	Khyber Pakhtunkhwa	Buner	Daggar	4000	72.250914	34.494467
227	Nar/Ghoro Nallah	Game Reserve	Gilgit-Baltistan	Baltistan	Skardu	7252	75.200000	35.100000
228	Nara	Game Reserve	Sindh	Khairpur	Nara	109966	69.000000	27.000000
229	Nara Desert	Wildlife Sanctuary	Sindh	Khairpur	Nara	223590	69.083300	26.666700
230	Nasirabad Area	Unclassified	Balochistan	Kech	Kech (Turbat)	0	62.750000	26.050000
231	Nazbar Nallah	Game Reserve	Gilgit-Baltistan	Ghizer	Gupis/Yasin	33411	73.316700	36.366700

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
232	Nizam Pur	Game Reserve	Khyber Pakhtunkhwa	Nowshera	Nowshera	780	72.032910	33.801550
233	Norang	Wildlife Sanctuary	Sindh	Thatta	Ghorabari	243	67.833300	24.500000
234	Pai Forest	Game Reserve	Sindh	Sanghar	Shahdadpur	1969	68.500000	26.166700
235	Pakora	Game Reserve	Gilgit-Baltistan	Ghizer	Punial/Ishkoman	7511	73.883300	36.400000
236	Palsala Dhanaka	Community Game Reserve	Khyber Pakhtunkhwa	Mansehra	Mansehra	32	73.149172	34.588694
237	Pasni Coastline	Unclassified	Balochistan	Gwadar	Pasni	0	63.466700	25.250000
238	Phala/Kuthnar	Game Reserve	P.A.K.	Bagh	Haveli	353	74.166700	33.950000
239	Pind Hashim Khan	Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	3130	73.014222	34.051750
240	Pir Lasorha	National Park	P.A.K.	Sudhnoti	Pallandari	1580	73.848220	33.630966
241	Pir Mahfooz Game Reserve	Unclassified	Sindh			0	0.000000	0.000000
242	Pir Pagara Game Reserve	Unclassified	Sindh			0	0.000000	0.000000
243	Pirawala Kikarwala	Unclassified				0	0.000000	0.000000
244	Poonch River	National Park	P.A.K.			0	73.847746	33.438348
245	Pungi Banda	Community Game Reserve	Khyber Pakhtunkhwa	Hangu	Hangu	1314	70.828797	33.421044
246	Punjpir	Community Game Reserve	Khyber Pakhtunkhwa	Swabi	Swabi	55	72.481083	34.094506
247	Puritgol&chinar	Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	4646	71.868211	35.586375

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
248	Qalandar Abad	Game Reserve	Khyber Pakhtunkhwa	Abbottabad	Abbottabad	8490	73.241422	34.265419
249	Qazi Nag	Game Reserve	P.A.K.	Muzaffarabad	Hattian	4851	73.933300	34.216700
250	Raghai Rakhshan	Wildlife Sanctuary	Balochistan	Kharan	Rakhshan (Besima)	125425	65.333300	27.333300
251	Rahri Bungalow_?	Game Reserve	Punjab	Rahim Yar Khan	Sadiqabad	5464	70.043039	28.136035
252	Rajan Shah Plantation	Unclassified	Punjab	Leiah	Karor Lal Esan	0	71.066512	31.333642
253	Rakh Ghulaman	Wildlife Sanctuary	Punjab	Bhakkar	Kalur Kot	4356	71.479569	32.045108
254	Rakh Kundal Plantation	Unclassified	Punjab			0	0.000000	0.000000
255	Rakh Malik Banaras Khan	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	55	72.890606	33.928556
256	Rakh Nadir Khan	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	47	72.909278	33.962075
257	Rakh Rifaqat Shah	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	50	72.858489	34.136903
258	Rakh Raja Gustasap Khan	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	130	72.998939	34.026867
259	Rakh Saeed Taj Muhammad	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	23	72.983972	34.046256
260	Rakh Sardaran	Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	4200	72.791950	33.949289

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
261	Rakh Sardaran	Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	4200	72.791950	33.949289
262	Rakh Sarkar Mouza Momin Mughala Khel	Community Game Reserve	Khyber Pakhtunkhwa	Bannu	Bannu	190	70.769438	32.891935
263	Rakh Sultan Mohammad Khan	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	45	72.946625	34.151836
264	Rakh Syed Ali Shah	Private Game Reserve	Khyber Pakhtunkhwa	Haripur	Haripur	26	72.988956	34.018122
265	Rakh Tiyal	Private Game Reserve	Khyber Pakhtunkhwa	Abbottabad	Abbottabad	27	73.144669	33.919061
266	Rakh Topi	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	17600	71.703767	33.196064
267	Ras Koh	Wildlife Sanctuary	Balochistan	Chagai	Dalbandin	99498	65.100000	28.833300
268	Rasool Barrage	Game Reserve	Punjab	Mandi Bahauddin	Mandi Bahauddin	1125	73.524068	32.685015
269	Resi,Toi Banda	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	5908	71.802006	33.409456
270	Runn of Kutch	Wildlife Sanctuary	Sindh	Thatta	Jati	320463	68.416700	24.083300
271	Sadnai	Wildlife Sanctuary	Sindh	Thatta	Ghorabari	84	67.750000	24.416700
272	Sahib Samo	Game Reserve	Sindh	Sanghar	Tando Adam	349	68.583300	25.833300
273	SaifulMaluk	National Park	Khyber Pakhtunkhwa	Mansehra	Bala Kot	4867	73.704161	34.863356
274	Salkhala	Game Reserve	P.A.K.	Neelum	Athmuqam	810	73.916700	34.583300

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
275	Samno Dhand	Wildlife Sanctuary	Sindh	Sanghar	Tando Adam	23	68.500000	25.833300
276	Sasnamana	Wildlife Sanctuary				6607	0.000000	0.000000
277	Satpara	Wildlife Sanctuary	Gilgit-Baltistan	Baltistan	Skardu	31080	75.629085	35.229895
278	Serajabad Game Reserve	Unclassified	Balochistan			0	0.000000	0.000000
279	Sewagalai	Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	1820	72.211611	34.754433
280	Shah Lanko	Wildlife Sanctuary	Sindh	Dadu	Khairpur Nathan Shah	61	67.450000	27.250000
281	Shamshtoo	Game Reserve	Khyber Pakhtunkhwa	Nowshera	Nowshera	3490	71.810542	33.882258
282	Shamshukai	Community Game Reserve	Khyber Pakhtunkhwa	Karak	Karak	2696	71.402028	33.135325
283	Sharqi Baizai Mian Khan	Private Game Reserve	Khyber Pakhtunkhwa	Mardan	Mardan	1214	72.365039	34.374815
284	Shashan	Wildlife Sanctuary	Balochistan	Khuzdar	Khuzdar	29555	66.583300	27.833300
285	Shawaki Chukhtoo	Game Reserve	Khyber Pakhtunkhwa	Karak	Banda Daud Shah	11379	71.340581	33.288947
286	Shehzadi Banda	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	3814	71.428872	33.314492
287	Sheikh Sultan	Community Game Reserve	Khyber Pakhtunkhwa	Tank	Tank	0	70.269197	32.118622
288	Sheikh Sultan	Community Game Reserve	Khyber Pakhtunkhwa	Tank	Tank	1040	70.269208	32.120552

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
289	Sherqillah	Game Reserve	Gilgit-Baltistan	Ghizer	Punial/Ishkoman	16835	73.966700	36.300000
290	Shewa Karmar	Community Game Reserve	Khyber Pakhtunkhwa	Swabi	Swabi	627	72.283439	34.254381
291	Shiekh Badin	National Park	Khyber Pakhtunkhwa	Lakki Marwat	Lakki Marwat	15540	70.800235	32.300037
292	Shinawari	Game Reserve	Khyber Pakhtunkhwa	Hangu	Hangu	5360	70.801531	33.522669
293	Shorkot Forest Plantation	Wildlife Sanctuary	Punjab	Jhang	Shorkot	4032	72.199819	30.787355
294	Sigram	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Swat	2655	72.358992	34.869419
295	Sodhi	Wildlife Sanctuary	Punjab	Khushab	Khushab	5760	72.199519	32.580691
296	Sori Malandri	Community Game Reserve	Khyber Pakhtunkhwa	Mardan	Mardan	749	72.344664	34.401311
297	Sumari Bala	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	3416	71.174472	33.465653
298	Surjan, Sumbak, Eri and	Game Reserve	Sindh	Dadu	Thano Bula Khan	40632	67.866700	25.500000
299	Takkar	Wildlife Sanctuary	Sindh	Sukkur	Salehpat	43513	68.916700	27.250000
300	Takwara(Hathala)	Community Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	360	70.627892	32.144969
301	Tanda	Wildlife Park	Khyber Pakhtunkhwa	Kohat	Kohat	1133	71.391325	33.574492
302	Tando Mitha Khan	Game Reserve	Sindh	Sanghar	Sanghar	5343	69.083300	25.916700

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
303	Tang Banr	Community Game Reserve	Khyber Pakhtunkhwa	Swat	Matta	395	72.380672	34.910436
304	Tangi Darra	Community Game Reserve	Khyber Pakhtunkhwa	Lower Dir	Temergara	648	71.844267	34.828311
305	Tangir	Game Reserve	Gilgit-Baltistan	Diamir	Darel/Tangir	14241	73.400000	35.600000
306	Taunsa Barrage	Wildlife Sanctuary	Punjab	Muzaffargarh	Kot Addu	6490	70.839369	30.537164
307	Tehra Plantation	Wildlife Sanctuary	Punjab			399	0.000000	0.000000
308	Tehra Plantation/Jallo Park	Unclassified	Punjab	Lahore	Lahore Cantt	0	74.485627	31.571820
309	Teri,Isak kumari	Game Reserve	Khyber Pakhtunkhwa	Karak	Banda Daud Shah	18966	71.030489	33.334517
310	Thal-I	Game Reserve	Punjab	Khushab	Noorpur	70451	71.936384	31.793137
311	Thal-II	Game Reserve	Punjab	Bhakkar	Mankera	0	71.745658	31.399981
312	Thal-III	Game Reserve	Punjab	Leiah	Choubara	0	71.581319	30.955197
313	Thanedarwala	Game Reserve	Khyber Pakhtunkhwa	Karak	Banda Daud Shah	18966	71.030489	33.334517
314	Thath Solhan	Community Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	D. I. Khan	23	70.772239	31.513197
315	Togh Mangara	Wildlife Park	Khyber Pakhtunkhwa	Kohat	Kohat	1250	71.585690	33.596077
316	Togh Mangara	Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	0	71.585709	33.596079
317	Toli Pir	National Park	P.A.K.	Poonch	Rawalakot	1000	73.917883	33.884300

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
318	Tooshi Gol	Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	1545	71.818617	35.975864
319	Tooshi Shasha	Community Game Reserve	Khyber Pakhtunkhwa	Chitral	Chitral	20000	71.806783	35.919919
320	Totalai	Game Reserve	Khyber Pakhtunkhwa	Buner	Daggar	1700	72.496744	34.190883
321	Totalai	Community Game Reserve	Khyber Pakhtunkhwa	Malakand PA	Swat Rani Zai	3000	71.726956	34.565439
322	Ucchali Lake	Game Reserve	Punjab	Khushab	Khushab	932	72.025322	32.558608
323	Ustarzai Payan	Community Game Reserve	Khyber Pakhtunkhwa	Kohat	Kohat	1477	71.247839	33.605525
324	Vatala	Game Reserve	P.A.K.	Bhimber	Barnala	452	74.266700	32.966700
325	Village Musabad Gandhi Khan Khel	Community Game Reserve	Khyber Pakhtunkhwa	Lakki Marwat	Lakki Marwat	102	70.706365	32.743298
326	Village Paher Khel Thall	Community Game Reserve	Khyber Pakhtunkhwa	Lakki Marwat	Lakki Marwat	93	70.875269	32.648800
327	Walhar Reserve Forest	Wildlife Sanctuary	Punjab	Rahim Yar Khan	Sadiqabad	1853	69.982935	28.186539
328	Wam	Game Reserve	Balochistan	Ziarat	Ziarat	3387	67.450000	30.433300
329	Wolhar	Unclassified	Punjab			0	0.000000	0.000000
330	Yakh Darra	Unclassified				0	0.000000	0.000000
331	Zangi Nawar	Game Reserve	Balochistan	Chagai	Nushki	1069	65.783300	29.450000

S. No. (corresp. to map)	Name	Status	Province	District	Tehsil	Area (ha)	Long.	Lat.
332	Zarkani	Game Reserve	Khyber Pakhtunkhwa	D. I. Khan	Kulachi	12800	70.263458	31.816747
333	Zawarkhan	Game Reserve	Balochistan	Quetta	Quetta	3887	67.064284	30.259876
334	Ziarat Juniper	Wildlife Sanctuary	Balochistan	Ziarat	Ziarat	37247	67.733300	30.400000

Reference List B: Arid and Non-Irrigated Areas of Pakistan

Province	District	Tehsil/s
Balochistan	Chagai	All
	Kharan	All
	Washuk	All
	Panjgur	All
	Kech	All
	Gwadar	All
	Awaran	All
	Lasbela	All
	Kalat	All
	Bolan	All
	Jhal Magsi	All
	Nasirabad	Baba Kot
	Sibi	All
	Kohlu	Parts of Kahan
Dera Bugti	Sui	
Gilgit Baltistan	Ghizer	Ishkoman and parts of Yasin
	Hunza Nagar	All
	Skardu	Skardu, Rondu, Shigar
	Ghanche	All
Khyber Pakhtunkhwa	Chitral	Parts of Mastuj
Punjab	Rajanpur	Parts of Rojhan
	Rahim Yar Khan	Liaqat Pur
	Bahawalpur	Yazman
Sindh	Karachi	All
	Jamshoro	All
	Dadu	Johi
	Tharparkar	All
	Umerkot	Umerkot
	Sanghar	Khipro
	Sukkur	Salehpat
	Ghotki	Parts of Daharki

Reference List C: Exotic Fish Species Introduced in Pakistan; Threat to Natural Water Bodies⁶

Species	English Name	Purpose
<i>Ctenopharyngodon idella</i>	Grass carp	Commercial farming;
<i>Hypophthalmichthys molitrix</i>	Silver carp	Commercial farming
<i>Hypophthalmichthys nobilis</i>	Bighead carp	Commercial farming
<i>Oreochromis aureus</i>	Blue tilapia	Commercial farming
<i>Oreochromis mossambicus</i>	Mozambique tilapia	Commercial farming
<i>Oreochromis niloticus niloticus</i>	Nile tilapia	Commercial farming
<i>Ictalurus punctatus</i>	Channel catfish	Experimental farming
<i>Clarias batrachus</i>	Walking catfish	Commercial farming

⁶ WWF Pakistan

Reference List D: Notified Archaeological Sites and Monuments of Pakistan⁷*Badin District*

1. Runs of old city at Badin, Badin

Dadu District

2. Tomb of Yar Muhammad Khan kalhora and its adjoining Masjid near khudabad, Dadu.
3. Jami Masjid, Khudabad, Dadu.
4. Rani Fort Kot, Dadu.
5. Amri, Mounds, Dadu.
6. Lakhmir-ji-Mari, Deh Nang opposite Police outpost, Sehwan, Dadu.
7. Damb Buthi, Deh Narpir at the source of the pirari (spring), south of Jhangara, Sehwan, Dadu.
8. Piyaroli Mari, Deh Shouk near pir Gaji Shah, Johi, Dadu.
9. Ali Murad village mounds, Deh Bahil Shah, Johi, Dadu.
10. Nasumji Buthi, Deh Karchat Mahal, Kohistan, Dadu.
11. Kohtrass Buthi, Deh Karchat about 8 miles south-west of village of Karchat on road from Thana Bula Khan to Taung, Dadu.
12. Othamjo Buthi Deh Karchat or river Baran on the way from the Arabjo Thano to Wahi village north-west of Bachani sandhi, Mahal, Kohistan, Dadu.
13. Lohamjodaro, Deh Palha at a distance of 30 chains from Railway Station but not within railway limits, Dadu.
14. Pandhi Wahi village mounds, Deh Wahi, Johi, Dadu.
15. Sehwan Fort, Sehwan, Dadu.
16. Ancient Mound, Deh Wahi Pandhi, Johi, Dadu.
17. Ancient Mound, Deh Wahi Pandhi, Johi, Dadu.

Hyderabad District

18. Tomb of Ghulam Shah Kalhora, Hyderabad.
19. Boundary Wall of Pucca Fort, Hyderabad.
20. Old office of Mirs, Hyderabad Fort, Hyderabad.
21. Tajar (Treasury) of Mirs, Hyderabad Fort, Hyderabad.
22. Tomb of Ghulam Nabi Khan Kalhora, Hyderabad.
23. Buddhist Stupa, (Guja) a few miles from Tando Muhammad Khan, Hyderabad.
24. Haram of Talpur Mirs, Hyderabad.
25. Enclosure containing Tombs of Talpur Mirs, Hyderabad.
26. Tower (Now used as water tank), Hyderabad Fort, Hyderabad.
27. Two Mosques and a Tomb, Tando Fazal, Hyderabad.
28. Tomb of Sarfaraz Khan Kalhora, Hyderabad.

⁷ Pakistan Environmental Protection Agency

29. Nasar-ji- Mosque, Mohalla Jhambhas, Nasarpur, Hyderabad.
30. Kiraji Masjid, Mohalla Misri, Nasarpur, Hyderabad.
31. Mai Khairiji Masjid, Mohalla Memon, Hyderabad.
32. Mosque of Mirs, Hyderabad, ward "E", Hyderabad.
33. Enclosure containing Tombs of Talpur Mirs, Hyderabad.

Karachi District

34. Wazir Mansion, birthplace of Quaid-e-Azam Muhammad Ali Jinnah, Karachi new Naham Road, Bundar quarters, Kharadar, Karachi.
35. Chaukhandi Tombs, near Landhi on National Highway, Karachi.
36. Lakho Shaikh (Baluch) Graveyard, Kharkhro, Karachi.
37. Khaliq Dina Hall and Library, M.A. Jinnah Road, Karachi.
38. Jam Bijar Fort (or Banbhore), Mirpur Sakro, Karachi.
39. Frere Hall, Karachi.
40. Flag Staff House (Quaid-e- Azam House Museum), Karachi.
41. Mausoleum of the Quaid-e-Azam Muhammad Ali Jinnah, Karachi.

Khairpur District

42. Diji ki Takri mound, remains of earliest fortified town, Deh Ghaunro near Kot Diji Fort. Khairpur.
43. Fort at Kot Diji, Kot Diji, Khairpur.
44. Maro Waro Dhero mound situated on sand hill, Deh Naro Dhero 2 miles east of Tando Masti Khan, Khairpur.

Larkana District

45. Jhukar mound, Mithadaro, Larkana.
46. Moenjodaro, Buddhist monastery and prehistoric remains around Moenjodaro, Larkana.
47. Moenjodaro, Buddhist Stupa and prehistoric remains underneath, Moenjodaro, Larkana.
48. Tajjar Building, Jinnah Bagh, Larkana.
49. Tomb of Shah Baharo, Larkana.
50. Square Tower, near Dhamrao, Larkana.
51. Dhamrao Dero (three groups), Deh Dhamrao, Deh 67 Nasrat, Larkana.

Nawabshah District

52. Buddhist Stupa, Village Mir Rukan, Nawabshah.
53. Tomb of Nur Muhammad Kalhora, Deh of Village Nur Muhammad, 17 miles from Daulatpur, Nawabshah.
54. Qubbo Mir Shahdad, Shahpur, Nawabshah.
55. Bhiro Bham Mound, Tapa Chibore, Nawabshah.

Sanghar District

56. Brahmanabad (Mansura) locally known as Dalo Raja-ji-Nagri, Jamara, Tehsil Sinjhor. Deh Dalore, Sanghar.
57. Mound Thulh, Deh Kot Bujar, Sanghar.
58. Graveyard, Tehsil Shahdadpur, Sanghar.

Sukkur District

59. Mir Masum's Minar and tomb, Sukkur.
60. Satyan-jo-than, Rohri, Sukkur.
61. Bakkar Fort entire area including the walls and tombs of Hazrat Sadruddin. Muhammad (occupied by the Army), between Lands down and Sukkur bridges, Sukkur...
62. Mumalji Mari, mound, Taluka Ghotki, Deh Mathelo, Sukkur.
63. Stone Tool Factory area Rohri, Sukkur.

Tharparkar District

64. Birth place of Akbar the Great (Small Building 9' x 9') near the town of Umerkot, Tharparkar.
65. Buddhist Stupa (Kahujodaro), Mirpurkhas, Tharparkar.
66. A stone mosque with white marble pillars, Bhodesar, Tharparkar.
67. Temple-I, Bhodesar, Tharparkar.
68. Temple-II, Bhodesar, Tharparkar.
69. Fort Naokot, Tharparkar.
70. Fort Umerkot, Tharparkar.
71. Gori Temple, 14 miles north-west of Virawah, Tharparkar.
72. Temple-IV, Bhodesar, Tharparkar.
73. Mound at Bhiro, Sherwah, Tharparkar.
74. Mound at Shadi Pali, Deh Khuda Bux, Tharparkar.
75. Jain Temple, Virawah, Tharparkar.
76. Brick Tomb of Arzi Khokhar, Ghitori, Goth, Deh No. 24, Tharparkar.
77. Tomb of Mir Khan s/o Karam Khan Talpur, Ghitori Goth, Deh No. 24, Tharparkar.
78. Tomb of Mir Jado, Ghitori Goth, Deh No. 24, Tharparkar.
79. Tomb of Mir Murad Khan, Ghitori Goth, Deh No. 24, Tharparkar.
80. Tomb of Musa Khan, Ghitori Goth, Deh No. 24, Tharparkar.
81. Tomb of Mir Raio, Ghitori Goth, Deh No. 24, Tharparkar.
82. Tomb of Shaheed Kapri Baloch, Ghitori Goth, Deh No. 24, Tharparkar.
83. A tomb (name not known) north-west of Shaheed Kapri Baluch, Ghitori Goth, Deh No. 24, Tharparkar.
84. Tomb of bricks, west of S.No. 81 above (name not known), Ghitori Goth, Deh No. 24, Tharparkar.
85. Stone tomb west of S. No. 82 above (name not known), Ghitori Goth, Deh No. 24, Tharparkar.
86. Tombs of Mir Fateh Khan and Mir Mirza Khan Ghitori Goth, Deh No. 24, Tharparkar.
87. Tomb of females of Mir dynasty, Ghitori Goth, Deh No. 24, Tharparkar.
88. Tomb of females of Mir dynasty, Ghitori Goth, Deh No. 24, Tharparkar.
89. Tomb of Aulia Pir Ghitori Badshah Qureshi, Ghitori Goth, Deh No. 24, Tharparkar.
90. Tomb and a Mosque, Ghitori Goth, Deh No. 24, Tharparkar.
91. Old ruined Mosque, Ghitori Goth, Deh No. 24, Tharparkar.

Thatta District

92. Brick dome to the north-east of tomb of Mubarak Khan (tomb of Fateh Khan's sister), Makli Hill, Thatta.
93. Tomb of Mubarak Khan son of Jam Nizamuddin, Makli Hill Thatta.
94. Tomb and compound wall of yellow stone to the south of Jam Nizamuddin, Makli Hill, Thatta.
95. Tomb and enclosure to the south-west of S. No. 92. Makli Hill, Thatta.
96. Tomb and enclosure to the west of the above tomb S. No. 93, Makli Hill, Thatta.
97. Brick dome to the south of the tomb S. No 94, above Makli Hill, Thatta.
98. Sultan Ibrahim and other tombs also but wrongly known a Amir Khalil Khan's tomb, Makli Hill, Thatta.
99. Tomb and compound wall of yellow stone to the south of Mirza Muhammad Baqi Tarkhan tomb (wrongly called Mirza Isa Khan's tomb), Makli Hill, Thatta.
100. Brick enclosure of Mirza Baqi Baig Uzbek's tomb, south of the tomb of Nawab Isa Khan the younger, Makli Hill, Thatta.
101. Dabgir Masjid, Makli Hill, Thatta.
102. Graveyard, Makli Hill, Thatta.
103. Goth Raja Malik graveyard known as Maqam Qadar Shah, Deh Raja Malik, Thatta.
104. Sonda graveyard, village Sonda, Thatta.
105. Jam Nizamuddin's tomb, Makli Hill, Thatta.
106. Baradari, Makli Hill, Thatta.
107. Tomb of Amir Sultan Muhammad son of Amir Hajika, Makli hill, Thatta.
108. Tomb of Nawab Isa Khan, the younger Makli Hill, Thatta.
109. Mirza Tughral Baig's tomb, Makli Hill, Thatta.
110. Tomb of Mirza Jani and Mirza Ghazi Baig, Makli Hill, Thatta.
111. Stone enclosure containing tombs of Nawab Isa Khan, Makli Hill, Thatta.
112. Mirza Muhammad Baqi Tarkhan's tomb (wrongly called Mirza Isa Khan's tomb) Makli Hill, Thatta.
113. Stone tomb with a dome on stone pillars by the side Mirza Jani Baig's tomb, Makli Hill Thatta.
114. Brick masjid and enclosure near Nawab Shurfa Khan's tomb (supposed to be the tomb of Sayyed Amir Khan), Makli Hill, Thatta.
115. Stone tomb with enclosure to the south of tomb of Mirza Muhammad Baqi Tarkhan, Makli Hill, Thatta.
116. Tomb of Mirza Muhammad Isa Turkhan I, Makli Hill, Thatta.
117. Brick tomb near the tomb of Qulia pir, Makli Hill, Thatta.
118. Tomb with superstructure on stone pillars to the north of tomb of Jam Nizamuddin, Makli Hill, Thatta.
119. Brick structure to the north of tomb of Jam Nizamuddin, Makli Hill, Thatta.
120. Two pavilions on stone pillars over the tombs to the southwest of tomb of Jam Nizamuddin. One is the tomb of Jam Sikandar Shah, Makli Hill, Thatta.
121. Kalan Kot, Makli Hill, Thatta.
122. Nawab Amir Khan's mosque, Makli Hill, Thatta.
123. Building with two domes near the Civil Hospital, Thatta, Makli Hill, Thatta.
124. Jama Masjid, Makli Hill, Thatta.
125. Sasian-Jo-Takar (Mirpur Sakro, Thatta).
126. Jama Masjid, Thatta.

NATIONAL MONUMENTS

1. Mausoleum of the Quaid-e-Azam Muhammad Ali Jinnah, Karachi.
2. Wazir Mansion, Quaid-e-Azam's birth place, Karachi.
3. Khaliq Dina Public Hal and Library, Karachi.
4. Flag Staff House (Quaid-e-Azam House Museum), Karachi.

WORLD HERITAGE MONUMENTS ON UNESCO LIST.

1. Mohenjodaro, District Larkana.
2. Makli Hill, Thatta.

Archaeological Sites and Monuments in Punjab (under the Antiquities Act 1975)

Attock District

1. Lala Rukh's tomb, Hasan Abdal, Attock.
2. Begum ki Sarai, on left bank of Indus River near Attock fort, Attock.
3. Saidan Baoli, Hatti, Attock.
4. Hakim's tomb, Hasan Abdal, Attock.
5. Chitti Baoli, Pindi Suleman Makhan, Attock.
6. Attock Fort, Attock.
7. Attock tomb, on G.T. Road near Ziarat Hazrat Baba Sahib, Attock.
8. Behram ki Baraddari, Attock.
9. Tope and Mnastery (Buddhist remains), 5 miles east of Hasan Abal Baoli Pind, Attock.
10. Kallar (temple) or Sassi da Kallara, village Shah Muhammad Wali, Tesil Talagang, Attock.
11. Site at Garhi, village Malak Mala, 6 miles east of hasan Abal, Attock.
12. Inderkot mosque, Fateh Jang, Inderkot, Attock.
13. Buddhist site (Behari Colony) Hasan Abddal Town, Behari Colony, Attock.

Bahawalpur istrict

14. Tomb of Abu Hanifa, Uchh Sharif, Bahawalpur.
15. Tomb of Bibi Jawidi, Uchh Sharif, Bahawalpur.
16. Tomb of Nuria, Uchh Sharif, Bahawalpur.
17. Tomb of Bhawal Halee, Uchh Sharif, Bahawalpur.
18. Tomb of Musa Pak Shaheedd, Uchh Sharif, Bahawalpur.

Dera Ghazi Khan District

19. Ghazi Khan's Tomb, Mohalla Zaminaran, Village Chirotta, Ddera Ghazi Khan.
20. Ther Dally Roy, Dajal, Ddera Ghazi Khan.

Faisalabad District

21. Wangar Wala Tibba, Chak No. 742, Tehsil Taoba Tek Singh, Faisalabad.

Gujranwala District

22. Baraari in Sherawala garen, Gujranwala city.
23. Tomb of Abdul Nabi Kotli Maqbara, Gujranwala.

Gujrat District

24. Akbari Baoli in fort Gujrat city.
25. Bahar Wali, Baoli Kharian Town, Gujrat.
26. Tomb of Shaikh Ali Baig, locally calle Hanjeera, Village Hailan, Tehsil Phalia, Gujrat.

Jhang District

27. Shahi Masi, Chiniot, Jahng.
28. Tomb of Shah Burhan, Chiniot, Jhang.

Jhelum District

29. Rohtas Fort, 5 miles from Dina Railway Station, Jhelum.
30. Ruined Temple with gateway, Melot, Jhelum.
31. Raja Mansigh's Haveli Rohtas, Jhelum.
32. Hill measuring 25 ft. long and 190 ft. broad, Murti in Tehsil Pind Dadan Khan, Jhelum.
33. Two ancient teples, Bhagan Wala, 11 miles from Haranpur Railway Station, Jhelum.
34. Ruins of Nandana, For Bhagan Wala, Jhelum.
35. Sardar of Hari Singh's Haveli, Katas, Jhelum.
36. Ruined Buddhist Stupa area around it, Katas, Tehsil Pind Dadan Khan, Jhelum.
37. Satghara temple Village Katas, Tehsil Pind Dadan Khan, Jhelum.

Khanewal District

38. Tomb of Khali Walid, village Kabirwala, Khanewal.

Lahore District

39. Tomb of Ali Mardan Khan and Gateway, Lahore.
40. Buddo's tomb, Lahore.
41. Sarwala Maqbara, Lahore.
42. Huzuri Bagh Baradari, Lahore.
43. Dai Anga's tomb, Lahore.
44. Shalamar Garden, including baradari, gateway, kiosks, pavilions, well, Naqqar Khana, asmani well and garden, Lahore.
45. Old Fort, Lahore.
46. Buddho ka Awa, Lahore.
47. One kos minar, Lahore.
48. Roshani gate, Lahore.
49. Mirza Kamran's baradari, Lahore.
50. Tomb of Dr. Muhammad Iqbal, Lahroe.
51. Tomb of Dr. Muhammad Iqbal, 34-A, Mcleod Road, Lahore.
52. Chauburji, Mazang, Lahore.
53. Gulabi Bagh gatweay, Begumpura, Lahore.
54. Qutbuddin Aibak's tomb, Anar kali street, Lahore.
55. Tiled gateweay and two bastions, Nawankot, Lahore.
56. Two kos minars, Minola, 6 miles from Jullo, Lahore.

57. Tomb of Shaikh Mosa, Ahangar, mosque and house, Mcleod Road, 35, Chiraghan Street, Lahore.

58. Tomb of (erroneously called) Zebun-Nisa, Nawankot, Lahore.
59. Naddira Begum's tomb and tank, Mian Mir, Lahore Cantonment, Lahore.
60. Hujra Mir Mehdi (Janazegah), Kot Khawaja Saeed, Lahore.
61. Tomb of Prince Parwaiz, Kot Khawaja Saeed, Lahore.
62. Tomb of Nawab Bahadur Khan, Mughalpura near Railway crossing, B-II, South of railway carriage shop, Lahore.
63. Javedd Manzil, Allama Iqbal Road, Lahore.
64. Jahangir's tomb and compound, Shahdara, Lahore.
65. Akbari Sarai an mosque, Shahdara, Lahore.
66. Tomb of Asif Khan and compound, Shahdara, Lahore.
67. Tomb of nur Jeha, Shahdara, Lahore,
68. Tomb of Mahabat Khan and boundary wall, Baghbanpura, Lahore.
69. Samadh of Rajit Singh, Karakh Singh and Nau Nihal Singh, Lahore.
70. Tomb of Anarkali, Lahore.
71. Baradari and Samadh of Maharaja Sher Singh, Lahore.
72. Badshahi mosque, Lahore.
73. Wazir Khan's mosque, Lahore.
74. Chitta gate, Chowk Wazir Khan inside elhi Gate, Lahore.
75. Another gate to northeast of Wazir Khan's mosque, Chowk Wazir Khan, Lahore.
76. Well of Raja Dina Nath, Chowk Wazir Khan, Lahore.
77. Masti gate, Lahore.
78. Bhati gate, Lahore.
79. Sheranwala gate, Lahore.
80. Kashmiri gate, Lahore.
81. Lahori known as Lahori gate, Lahore.
82. Delhi gate, Lahore.
83. Wazir Khan's hammams inside Delhi gate, Chowk Wazir Khan, Lahore.
84. Haveli Nau Nihal Singh including garden, quarters, latrine etc. inside Bhati gate, Kucha Nau Nihal Singh, Lahore.
85. Tomb of Khawaja Sabir (Nawab Nusrat Khan) inside Railway Mechanical Workshop, Mughalpura, Lahore.
86. Tomb of French Officer's ddaughter, Kuri Bagh, Lahroe.
87. Wazir Khan's baradari, oldd Anarkali, Behind Lahore Museum, Lahore.
88. Samadh of Jhingar Shah Suthra (Suthron ka Asthan) Suthron, Teshi Lahore, Lahore.
89. Samadh of Bhai Wasti Ram Tixali gate near Shahi Qila, Lahore.
90. A Mughal period tomb, Tehsil Lahore Singhapura, oppsite Police Post, Lahore.
91. Jani Khan's tomb, Baghbanpura, Lahore.
92. Dai Anga's mosque, Naulakha, Lahore.
93. Mosque with glazed tiles work, Bagumpura, Lahore.
94. Mosque of Nawab Zakariya Khan, Bagumpura, Lahore.
95. Inayat Bagh, opposite Shalamar Garden, Bagumpuura, Lahore.
96. Angori bagh, opposite Shalamaer Garen Bagumpura, Lahore.
97. Mariam Zammani mosque, insie Masti gate, Lahore.

Mianwali District

98. Shershah's baoli, Wah Buchhran, Mianwali.
99. A buddhist Stupa with a surrounding area on River Indus to the north of Village Rokhari, Mianwali.

Multan District

100. Sawi Masjid an graves, Kotla Toie Khan, Multan.
101. Tombs of Petrick Alexander Vana, Andrew & William Anderson, Old Fort, Multan.
102. Shrine of Rukne Alam, Old For, Multan.
103. Tomb of Shah Ali Akbar's mother, Sura Miana, Multan.
104. Tomb of Shams Tabriz, Sura Miana, Multan.
105. Tomb of Shah Ali Akbar, Sura Miana, Multan.
106. Tomb of Shah Yousuf Gardezi, Multan.
107. Mound Ratti Khari, Head Bust 133 village Bhatianwala, Teshil Kaberwala, Multan.
108. Tobm of Shah Hussain Soozai, near Abdal Road, Multan.
109. Tomb of Mai Mehraban, Mohallah Kirialoghana, Multan.
110. Ruined mosque Village Sargana, Multan.
111. Maryala Moun, Chak No. 267/IOR, Multan.

Muzaffargarh District

112. Tomb of Thar Khan Nahar, Sitpur, Musaffargarh.
113. Mosque of Tahar Khan Nahar, Sitpur, Muzaffargarh.
114. Tomb of Sheikh Sadan Shaheedd, Village Sadan, Muzaffargarh.

Rawalpindi District

115. Tope or stupa (Buddhist), Mankiyala, Rawalpindi.
 116. Top or stupa (Buddhist) Bhallar, Rawalpindi.
 117. Pharwala fort Pharwala, Rawalpindi.
 118. Losar baoli, Wah Cantonment, Rawalpindi.
 119. Bhir Moun, Taxila, Mauza Majawer, Rawalpindi.
 120. The area or Track known as Babar Khan, Taxila, Babar Khan, Rawalpindi.
 121. Kalawansite, Mauza Karawal, Rawalpindi.
 122. Chirtope site, Taxila, Chirtope, Rawalpindi.
 123. Sirkap site, Mauza Gangu Bahaddur, Rawalpindi.
 124. Giri remains, Mauza Khuram Gujjar, Rawalpindi.
 125. Mohra Maradu site, Taxila, Rawalpindi.
 126. Rewat fort, Village Rewat, Rawalpindi.
 127. Nicholson Column, Margala Pass, Rawalpindi.
 128. Kos minar, Milestone 102, G.T. Road, Rawalpindi.
 129. Kos Minar, near Golara Railway Station, Rawalpindi.
 130. Farudgh-e-Shahan-e-Mughalia, tank and garden Wah, Rawalpindi.
 131. Ratta Pind, Village Gangu Bahadur, Rawalpindi.
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Sahiwal District

132. Mounds, Harappa, Sahiwal.
133. Mir Chakar's tomb, Satghara, Sahiwal.
134. Tomb of Syyed Daud Kirmani, Shergah, Sahiwal.

Sargodha District

135. Three temple inside fort, Amb Sargodha.
136. Site of ancient city, Bhera, Sargodha.
137. Site of ancient city, Vijhi, 2 miles southwest of Miani known as Sabzal Pind, Sargodha.
138. A red sandstone teple, Sodhi Zerim, Sargodha.

Sheikhupura District

139. Sheikhupura fort, east of Sheikhupura town, Sheikhupura.
140. Baoli and mosque, Jandiala Sher Khan, Sheikhupura.
141. Tank and tower, Sheikhupura.
142. Tomb of Abdullah Shah, Jandiala Sher Khan, Sheikhupura.
143. Mound Mian Ali Sahib, Mian Ali Faqiran, Sheikhupura.
144. Tibba (Mound), Kala Shah Kaku, Sheikhupura.
145. Tomb of Noor Muhammad, Jandiala Sher Khan, Sheikhupura.
146. Tomb of Hafiz Barkhurdar, Jandiala Sher Khan, Sheikhupura.

Sialkot District

147. Tibba Jolian, Sialkot.

NATIONAL MONUMENTS

1. Tomb of Allama Muhammad Iqbal, Lahore.
2. Javed Manzil (Allama Iqbal Museum), Lahore.
3. Islamic Summit Minar, Lahore.
4. Professor Abdul Salam's House, Jhang.

WORLD HERITAGE MONUMENTS ON UNESCO'S LIST

1. Old Fort, Lahore.
2. Shalamar Gardan, Lahore.
3. Archaeological Remains of Taxila.

Archaeological Sites and Monuments in Balochistan (under the Antiquities Act 1975)

Karachi District

1. Pirak mound, Village Kolachi, Kachhi.

Kalat District

2. Nindo Damb, Ornach Valley, Tehsil Wadh, Kalat.

Kharan District

3. Fort wall of Jalawar Pass, Jhalawar, Kham.
4. Fort of Azad Khan (Kharan Fort), Kharan twon, Kharan.
5. Pally Kalat, Washbohi, Kharan.
6. Nauroze fort, Nauroze Kharan.
7. Aneient tomb, Jhalawar, Kharan.
8. Har-o-Goke, Garuk, Kharan.

Lasbella District

9. Ancestral graveyard of Jam of Lasbella, Babrs, Lasbella.
10. Tomb of General Muhammad Ibn-e-Haroon, Bela town, Lasbella.
11. Tombs at Hinidan, Pir Mubarakm Lasbella.
12. Chowkhundi (Rumi) graves, Bhawani Sarai, 5 miles from Hub Chowki, Lasella.

Loralai District

13. Tordheri site, Tordheri, Loralai.
14. High cound, Dabarkot, Loralai.
15. Pre-historie mound, Harian Haider Zai, Loralai.

Nasirabad District

16. Damb Judeir or Judeir-jo-daro, Deh Jodher No.2 between Jhatpat and Dera Murad Jamali, Nasirabad.

Quetta District

17. Mound No. 2, Village Samangali, west side of Airport, Quetta.
18. Mound No.1, Village Kotwal Near Killi Gul Muhammad, Quetta.
19. Mound No. 3, Damb Sadat, 14 miles from Quetta, Quetta.
20. Mound No. 5, Ahmad Khan Zai, Quetta.

21. Mound No. 6, Shahi Khan, near Pir Ballo or Sariab Road, Quetta.
22. Mound No. 7, Kachlak on Chaman Road, Quetta.
23. Mound NO. 8, Village Samali (Dosak-i-Khasyan), Quetta.
24. Mound No. 9, Village Metar Zai, Quetta.
25. Mound No. 10, Shaikh Manda on Chaman Road, Quetta.
26. Mound No. 11, Village Vauhisar, Quetta.

Sibi District

27. Quaid-i-Azam Residency Building, Ziarat, Sibi.

Archaeological Sites and Monuments in Khyber Pakhtunkhwa and Gilgit Baltistan (under the Antiquities Act 1975)

Abbottabad District

1. Jandial, A,B,C,D, (excavated remains), Tafikian, Abbottabad.
2. Sirsukh city, Marchabad, Abbottabad.
3. Jaulian site, Jaulian, Abbottabad.
4. Piplan site, Jaulian, Abbottabad.
5. Garhian (Lal Chak) stupa and monastery, Garhian, Abbottabad.
6. Badalpur stupa and monastery, Badalpur, Abbottabad.
7. Ancient stie, Bhamala, Abbottabad.
8. Tofikian mound, Tofikian, Abbottabad.
9. Therr Bajran Sites B,C,D, Tofikian, Abbottabad.
10. Pind Ghakhran mound, Pind Ghakhran, Abbottabad.
11. Mirpur mound, Mirpur, Abbottabad.
12. Tope iste (mound), Jaulian, Abbottabad.
13. Bhera (mound) Bhera, Abbottabad.
14. Chitti site, Chitti, Abbottabad.
15. Tamawa Chitti site A & B, Tarawa, Abbottabad.
16. Burj or Tuma site, Garamthun, Abbottabad.
17. Bhari Dheri, Kutehra, Abbottabad.
18. Dana Wali, Kutehra, Abbottabad.
19. Tope site, Kamalpur, Abbottabad.
20. Part of site, Dobandi, Abbottabad.
21. Zuro Dheri, Village Shin kiari, Abbottabad.

Bannu District

22. Akra (A) mound, near Village Bhart, Bannu.
23. Akra (B) mound, near Village, Vhart, Bannu.
24. Sheri Khan Tarakai, Village Jani Khel Wazir, Bannu.
25. Ghundai, Village Bakka, Khel Wazir, Bannu.

Buner District

26. Ranighat Totalai, Buner.

Dera Ismail Khan District

27. Northern Kafir Kot, ancient fort and temple, Umer Khel, D.I.Khan.
28. Graveryard including four tombs at Lal Mohra Sharif, Lunda Pahar, D.I.Khan
29. Rehman Dheri, Hisam, D.I.Khan.
31. Southern Kafir Kot, ancient fort and temple, Bilot, D.I.Khan.

Kohat District

32. Kohat fort, Kohat.

Mansehra District

33. Tomb of Hazrat Shaheed Ahmad Maujadid Baralvi, Bala Kot, Mansehra.
34. Tomb of Shah Ismail Shaheed, Bala Kot, Mansehra.
35. Fourteen rock edicts of Asoka inscribed on three rock boulders, Mansehra.
36. Buddhist inscribed rock at Shahdaur, Shahdaur Agror, Mansehra.

Mardan District

37. Buddhist ruins, Jamal Garhi, Mardan.
38. Fourteen rock edicts of Asoka inscribed on two rocks Shahbaz Garhi, Mardan.
39. Stone circle, Asota, Ssawabi Tehsil, Mardan.
40. Buddhist ruins, Takht-e-Bahi, Mardan.
41. Chanaka Dheri, Shahbaz Garhi, Mardan.
42. Sahri Bahlol remains, Sahri Bahlol, Mardan.
43. Tereli Buddhist remains, Sawal Dhera, Mardan.
44. Kashmir Samast, Babuzai, Mardan.
45. Ruined fort wall, Hund, Mardan.
46. Maida Ghundai or Maida Dheri, Shahbaz Garhi, Mardan.
47. Hussai Dheri, Shahbaz Garhi, Mardan.
48. Adina Dheri, near Garijala, Mardan.
49. Chargul Dheri, Chargul, 5 miles southwest of Rustam, Mardan.
50. Chichar Dheri, Jamal Garhi, Mardan.
51. Turiandi Ghundai (mound), Chak No. 2, Mardan.
52. Takhta (Takhta Band) Taakhta Band, Tehsile Sawabi, Mardan.

Nowshera District

53. Black Rock, on right bank of Indus River, Modery, Nowshera.

Peshawar District

54. Mirchi-ki-ddheri, Head Bust, Chak Razar, Peshawar.
55. Gorkhatree, Peshawar.
56. Bala Hisar mound, Charsadda, Peshawar.
57. Tomb built by one Shah Qutb during the reign of Mughal Emperor, Akbar, Dilzak, Peshawar.
58. Sheikhan Dheri, Chak Razar, Head Bust, Peshawar.
59. Rattappan mound, 2 miles from Jalbi Village, Peshawar.
60. Ghaz Dheri, Razzar, Peshawar.
61. Hamza Garhi mounds, Hamza Garhi, Peshawar.
62. Dharam Sal-ki--dheri, Mera Prang, Peshawar.
63. Kaniza-ki-dheri, Charsadda, Peshawar.
64. Tomb and mosque of Sheikh Imamuiddin, Piloni Piran, Peshawar.

65. Gateway of Kotla Mohsin Khan Kotala Moshin Khan, Peshawar.
66. Sethi House Complex, Mohallah, Setian, Peshawar.
67. Barama site, Mingora, Swat.
68. Udegram Castle, Udergarn, Swat.
69. Butkara-I Mingora, Swat.
70. Panr site, Panr, Swat.
71. Loebnr stupa, Loebanr, Swat.
72. Saidu stupa, Saidu Sharif, Swat.
73. Dangram stupa, Dangram, Swat.
74. Gogdara Rock Carvings, Gogdara, Swat.
75. Manglawar stupa, Manglawar, Swat.
76. Shinashah stupa, Batura, Swat.
77. Gullaki Dheri, Kukarai, Swat.
78. Aligrama site, Aligrama, Swat.
79. Najigram site, Nijigram, Swat.
80. Nawagai (Gumbatuna), Nawagai Swat.
81. Amlukdara stupa, Amlukdara Serai, Swat.
82. Shingardara stupa, Amlukdara Serai, Swat.
83. Nimogram site, Village Gumkot, Swat.
84. Barikot Ghundai, ancient Bazira, Barikot, Swat.
85. Ghalegay Cave, Barikot, Swat.
86. Butkara-III, Gulkada Babozai, Swat.

Gilgit Gistrict

87. Danyore Rock Inscriptions, (Northern Areas) Gilgit.

WORLD HERITAGE MONUMENTS ON UNESCO LIST

Buddhist ruins of Takh-i-Bahi and neighbouring city remains at Sehri Bahlol.

PPAF's Negative List of Activities⁸

The PPAF will, under no circumstances, provide grants or loans for the following activities:

Micro-Credit/ Micro-Enterprises

- Property/ Real estate development
- Commercial construction
- Hazardous toxic waste, plastic bags, radio-active material
- Tanneries
- Timber, logging, deforestation
- Financial services
- Explosives, armaments, ammunition, mining
- Cultivation/ processing of poppy and/ or other prohibited varieties
- Breweries
- Poaching/ Hunting
- Informal cross-border trade
- Persistently Polluting Pesticides
- Any other pesticides/insecticides banned by the Government or WHO

Community Physical Infrastructure

- Metaled roads

Water Management Infrastructure

- Metaled roads
- Dams with height more than 10m except where an EIA has been carried out

Social Sector Development

- Vehicles/Ambulances
- Purchase of land

Capacity Building

- Reconditioned and used vehicles and capital items
- Buildings, construction costs
- Air conditioners and refrigerators
- Any other item considered luxurious by PPAF management

⁸ Pakistan Poverty Alleviation Fund, 2009. *Operational Policies Manual*. Islamabad: PPAF

PPAF’s Social Mobilization Approach⁹

While ensuring adherence to 5 cardinal principles as defined in Section 3.1.3 (c) of the PPAF Operational Policies Manual (2009), the PPAF management is responsible to ensure that all the PPAF supported interventions remain adherent to the following principles:

- i. All interventions shall be universally accessible to the eligible target group, irrespective of their belief, caste, creed, color or physical appearance.
- ii. Universal accessibility also means that all interventions shall be designed and implemented in such a way that Persons With Disabilities (PW Ds) can access and benefit as much as a person without disability would access and benefit.
- iii. PPAF as an organization remains concerned with wellbeing of vulnerable. Therefore, PPAF supported POs must remain watchful or cause beneficiary groups to remain watchful of the interest of the vulnerable.
- iv. PPAF as a responsible organization promotes adherence to rules and regulations and shall not only facilitate its POs to follow same practices but also facilitate them to mobilize and continue form and strengthen ‘responsible beneficiary groups’.

The Social Mobilization in PPAF is aimed targeting and empowering the poor by supporting their organizations to federate at higher levels such as revenue village, union council, tehsil. The purpose of federating is to build voice and attain economies of scale for an effective interface with all development stakeholders including PPAF, PPAF POs, development projects, local government, government departments, and markets.

PPAF’s partner organizations will be entrusted with the task of intensifying their coverage within revenue villages and then the union council areas and strengthen new and existing community institutions. The institutions of the poor established or strengthened with the financial and technical assistance of the PPAF will be ‘responsible institutions’ implying that they will not only be aware of their rights but also that of their responsibilities towards their community members, society at large and the state. PPAF POs will stimulate growth of responsible institutions through well-defined training and orientation programs.

Social Mobilization will be inclusive, i.e., organizations formed will include vulnerable such as widows, women with disabled husbands, persons with disabilities and minorities as an active part of development or at least capacitate the community institutions to undertake special programs for vulnerable. PPAF social mobilization strategy is based on the three important principles of **inclusion**, **cohesion** and **accountability**.

PPAF supported social mobilization process will also capacitate and facilitate community institutions to plan physical expansion of their respective villages to address issues like water, sanitation, solid waste disposal, open spaces for youth etc.

⁹ Excerpted from Pakistan Poverty Alleviation Fund, 2009. *Operational Policies Manual*. Islamabad: PPAF.

Recommended Safe Distances

While deciding the location of a particular scheme, many factors need to be taken under consideration. Beneficiaries might like to locate the scheme at a site most convenient to them, but keeping communal sensibilities and social responsibilities abreast, ESMF recommends safe distances for all such schemes which have potential negative impacts¹⁰. **Table 4** illustrates recommended distances, and associated explanations. All of these explanations are based on expert recommendations as well as scientific orientations/justifications.

Table 4 – Recommended Safe Distances

Intervention	Guidelines on Safe Distances		Reasons
	Location	Recommended Distance	
Tube Wells (Irrigation in Canal Areas, Drinking Water, Irrigation in Dry Areas)	Historic, cultural, and/or ecological important sites such as protected areas ¹¹	150m	Possible water spillage Noise created due to electric water pump Noise/disturbance created to gathering of large crowd
	Presence of other major safe drinking water source	250m	Resources are limited and therefore investment choices need to be based on dire needs
	Latrines and solid waste dumps	30-50m	Sanitation purposes; Possible transference of pathogens in drinking water and spread of water borne diseases
	Distance between tube wells	100m	Reduction in the yield of existing tube wells Depletion of groundwater table
Hand Pump	Presence of other major safe drinking water source	100m (irrigated areas) 250m (desert & dry areas)	Resources are limited and therefore investment choices need to be based on dire needs
	Latrines and solid waste dumps	50m	Sanitation purposes; Possible transference of pathogens in drinking water and spread of water borne diseases

¹⁰ References for these distances are provided in 'ESMF Volume II – Reference Material and User Guidelines'.

¹¹ List of Protected Areas of Pakistan is presented in Annexure 5a

Intervention	Guidelines on Safe Distances		Reasons
	Location	Recommended Distance	
	Historic, cultural, and/or ecological important sites such as protected areas	10m	Possible water spillage Noise/disturbance created to gathering of large crowd
Open Well	Presence of other major safe drinking water source	100m (irrigated areas) 250m (desert & dry areas)	Resources are limited and therefore investment choices need to be based on dire needs
	Historic, cultural, and/or ecological important sites such as protected areas	10m	Possible water spillage Noise/disturbance created to gathering of large crowd
Rain Water Harvesting Pond	Latrines, solid waste dumps, and agricultural fields	50m 100m (drinking water)	Sanitation purposes; Possible transference of pathogens in drinking water and spread of water borne diseases; pesticide poisoning
	Historic, cultural, and/or ecological important sites such as protected areas	10m	Possible water spillage Noise/disturbance created to gathering of large crowd
Water Tank	Latrines and solid waste dumps	50m	Sanitation purposes; Possible transference of pathogens in drinking water and spread of water borne diseases
	Historic, cultural, and/or ecological important sites such as protected areas	30m	Possible water spillage Noise/disturbance created to gathering of large crowd
Desalination Plant	Latrines and solid waste dumps	50m	Sanitation purposes
Biogas Plant	Residences and sources of water supply	200m (communal) 20m (personal)	Harmful methane emissions Sanitation purposes; Possible transference of pathogens
Solid Waste Management	Distance of large bins from residential areas	100m	Sanitation purposes; possible transference of harmful germs and bacteria; foul smell
Jetty	Marine life sanctuaries and habitats	1km	Risk of habitat fragmentation; construction activity harms the habitats
Windmill (water pumps)	Presence of other major safe drinking water source	250m	Resources are limited and therefore investment choices need to be based on dire needs

Intervention	Guidelines on Safe Distances		Reasons
	Location	Recommended Distance	
	Distance between tube wells	100m	Reduction in the yield of existing tube wells Depletion of ground water table
	Latrines and solid waste dumps	30-50m	Sanitation purposes; Possible transference of pathogens in drinking water
	Historic, cultural, and/or ecological important sites such as protected areas	150m	Possible water spillage Noise created due to electric water pump Noise/disturbance created to gathering of large crowd
Sanitation Schemes	Septic Tank: Distance of Septic tank from ground water well	15m	Sanitation purposes; Possible transference of pathogens in drinking water and spread of water borne diseases
Livestock/ Poultry/ Fish Farming	Distance of livestock and poultry sheds, and fish ponds from freshwater sources	30m	To avoid solid waste and runoff contamination of water
Food Processing/ Production	Distance of food processing and production activities from freshwater sources	15m	To avoid solid waste and runoff contamination of water
Handicrafts/ Cottage Industry	Distance of handicraft centers and cottage industry from freshwater sources	15m	To avoid solid waste and runoff contamination of water

General Environmental and Social Messages

General Message

- Compliance to Pakistan Environmental Protection Act 1997 is mandatory;
- Environmental Management and compliance is important for the well-being of the communities and natural resources;
- ESMF-IV compliance is mandatory under PPAF procedures; and
- Protection off culturally important and environmentally sensitive sites is mandatory under the environmental law.

Thematic Area Specific Messages

PPAF is involved in the seven interventions areas; these are: water resource development, technological innovations, access/circulation-internal, access/circulation-external, wastewater management, social sector development, other projects and MF interventions. Following are the major environmental messages by each thematic area:

1. Water resource development

- Water conservation is essential due to scarcity of sweet water in Pakistan;
- Testing of drinking water as per NEQS guidelines is required to ensure community health;
- Drinking water storage facilities are mostly exposed to surface contaminants, and storage tanks require cleaning every three months;
- Installation of tube wells in dry/Barani areas cause serious threats to the availability of ground water on continuous basis in the area;
- Water channels in the mountain areas cause land erosion, safety threats to the community, and social conflicts; and
- Biodiversity precincts perform important ecological functions.

2. Technological Interventions

- Biogas plants are environmental friendly, if properly designed and implemented; and
- Efficient cooking stoves are environmentally friendly.

3. Access/Circulation-Internal & External

- Safe disposal of construction material is part of the project implementation;
- Dust emissions during construction phase cause health hazards for the communities;
- Acquire land on market prices;
- Plant two trees for each tree cut;
- Poor selection of road alignment in the mountain areas can lead to the opening-up of important ecological areas; and
- Roads in the mountain areas, if not properly constructed and operational phases.

4. Wastewater Management

- There are two sets of arrangements for the safe disposal of municipal wastewater:
 - Latrines + T-Chamber + covered drains/sewerage system + safe disposal; or
 - Latrines + covered drains/sewerage system + oxidation pond + safe disposal
- Adoption of better hygienic and sanitation practices by the communities is equally important.

5. Other Projects

- Solid management is important for community health;
- Solid waste burning can cause serious health hazards for the communities;

- Natural resource management projects are environmentally friendly; and
- Energy saver bulbs are energy efficient.

6. Social Sector Development

- Children are more sensitive to drinking water contamination and poor sanitary conditions;
- Equipment sterilization and crushing of used needles and syringes is essential for community health; and
- Line and covered pits within BTU are constructed for the safe disposal of BHU waste.

7. Microfinance Interventions

- Overuse of synthetic fertilizer cause soil contamination, use of organic fertilizers is better than synthetic fertilizer, crop rotation and land following increase the productivity of the soil and integrated pest management is better than use of pesticides;
- Better livestock species and healthier livestock are more productive;
- Low quality of chicken, poor hygienic conditions and poor disease control in poultry farms are health hazards for the communities;
- Introduction of exotic species and poor management of fish ponds lead to financial losses;
- Use hazardous dyes and chemicals, poor acid handling and improper disposal of lubricants are health hazards for workers and communities;
- Hiring child labor is a crime under the laws of Pakistan;
- Poor washing of fruits and poor hygienic practices are health hazards for workers and communities;
- PPAF loans cannot be used for any pesticides purchase and trade; and
- Occupational health and safety practices add productivity in the enterprises.

Glossary

Aeration Tank: A chamber used to inject air into water.

Aerobic: Life or processes that require, or are not destroyed by, the presence of oxygen.

Air Emission: Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities; from residential chimneys; and from motor vehicle, locomotive, or aircraft exhausts.

Ambient Measurement: A measurement of the concentration of a substance or pollutant within the immediate environment of an organism; taken to relate it to the amount of possible exposure.

Ambient Temperature: Temperature of the surrounding air or other medium.

Aquifer: An underground geological formation, or group of formations, containing water. These are sources of groundwater for wells and springs.

Bacteria: (Singular: bacterium) Microscopic living organisms that can aid in pollution control by metabolizing organic matter in sewage, oil spills or other pollutants. However, bacteria in soil, water or air can also cause human, animal and plant health problems.

Biochemical Oxygen Demand (BOD): Measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. The greater the BOD, the greater the degree of pollution.

Biodiversity: Refers to the variety and variability among living organisms and the ecological complexes in which they occur.

Chemical Oxygen Demand (COD): Measure of the oxygen required to oxidize all compounds, both organic and inorganic, in water.

Composting: The controlled biological decomposition of organic material in the presence of air to form a humus-like material, Controlled methods of composting include mechanical mixing and aerating, ventilating the materials by dropping them through a vertical series of aerated chambers, or placing the compost in piles out in the open air and mixing it or turning it periodically.

Contamination: Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use. Also applies to surfaces of objects, buildings, and various household and agricultural use products.

Desalination: [Desalinization] (1) Removing salts from ocean or brackish water by using various technologies. (2) Removal of salts from soil by artificial means, usually leaching.

Design Capacity: The average daily flow that a treatment plant or other facility is designed to accommodate.

Digester: In wastewater treatment, a closed tank; in solid-waste conversion, a unit in which bacterial action is induced and accelerated in order to break down organic matter and establish the proper carbon to nitrogen ratio.

Ecological Impact: The effect that a man-caused or natural activity has on living organisms and their non-living (abiotic) environment.

Ecosystem: The interacting system of a biological community and its non-living environmental surroundings.

Effluent: Wastewater--treated or untreated--that flows out of a treatment plant, sewer, or industrial outfall.

Environment: Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans & their interrelation.

Erosion: The wearing away of land surface by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.

Fecal Coliform Bacteria: Bacteria found in the intestinal tracts of mammals. Their presence in water or sludge is an indicator of pollution and possible contamination by pathogens.

Flow Rate: The rate, expressed in gallons -or liters-per-hour, at which a fluid escapes from a hole or fissure in a tank. Such measurements are also made of liquid waste, effluent, and surface water movement

Greenhouse gases: Any of the gases that contribute to greenhouse effect e.g. CO₂

Habitat: The place where a population (e.g. human, animal, plant, microorganism) lives and its surroundings, both living and non-living

Social Impact Assessment: Collection and analysis of quantitative and qualitative data to assess social impacts of an intervention in a particular area

Topography: The physical features of a surface area including relative elevations and the position of natural and man-made (anthropogenic) features.

Hydrogeology: The geology of ground water, with particular emphasis on the chemistry and movement of water.

Impoundment: A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Infiltration: The process of water moving from the ground surface vertically downward into the soil

Irrigation: Applying water or wastewater to land areas to supply the water and nutrient needs of plants.

Land Farming (of Waste): A disposal process in which hazardous waste deposited on or in the soil is degraded naturally by microbes.

Landfills:

1. Sanitary landfills are disposal sites for non-hazardous solid wastes spread in layers, compacted to the smallest practical volume, and covered by material applied at the end of each operating day.
2. Secure chemical landfills are disposal sites for hazardous waste, selected and designed to minimize the chance of release of hazardous substances into the environment.

Leaching: The process by which soluble constituents are dissolved and filtered through the soil by percolating fluid

Oxidation Pond: A man-made (anthropogenic) body of water in which waste is consumed by bacteria, used most frequently with other waste-treatment processes; a sewage lagoon.

pH: Measure of the hydrogen ion concentration in a liquid. Neutral is pH 7.0; numbers greater than this are alkaline; smaller numbers are acidic.

Purging: Removing stagnant air or water from sampling zone or equipment prior to sample collection.

Salinity: The percentage of salt in water.

Sanitation: Control of physical factors in the human environment that could harm development, health, or survival.

Sediment: Material that settles out at the bottom of a liquid when it is in still.

Seepage: Percolation of water through the soil from unlined canals, ditches, laterals, watercourses, or water storage facilities.

Septic Tank: An underground storage tank for wastes from homes not connected to a sewer line. Waste goes directly from the home to the tank.

Silt: Sedimentary materials composed of fine or intermediate-sized mineral particles

Sludge: A semi-solid residue from any of a number of air or water treatment processes; can be a hazardous waste.

Total Dissolved Solids (TDS): All material that passes the standard glass river filter; now called total filterable residue. Term is used to reflect salinity

Vector:

1. An organism, often an insect or rodent that carries disease.
2. Plasmids, viruses, or bacteria used to transport genes into a host cell. A gene is placed in the vector; the vector then "infects" the bacterium.

Yield: The quantity of water (expressed as a rate of flow or total quantity per year) that can be collected for a given use from surface or groundwater sources.

Hospital Waste Management Rules

GOVERNMENT OF PAKISTAN

MINISTRY OF ENVIRONMENT

Islamabad, the 3rd August, 2005

NOTIFICATION

S.R.O.1013 (1)/2005. – In exercise of the powers conferred by section 31 of the Pakistan Environmental Protection Act, 1997 (XXXIV of 1997), the Federal Government is pleased to make the following rules, namely: -

Short title and commencement. – (1) These rules may be called the Hospital Waste Management Rules, 2005.

(2) They shall come into force at once.

2. Definitions. – (1) In these rules, unless there is anything repugnant in the subject or context,

- (a) “Act” means the Pakistan Environmental Protection Act, 1997 (XXXIV of 1997);
- (b) “chemical waste” includes chemicals from diagnostic and experimental work, cleaning processes, housekeeping and disinfecting procedures, mercury waste such as from broken clinical equipment and spillage, and cadmium waste such as from discarded batteries;
- (c) “genotoxic waste” includes cytotoxic drugs and outdated materials, vomitus, feces or urine from patients treated with cytotoxic drugs or chemicals, and materials such as syringes and vials contaminated from the preparation and administration of such drugs;
- (d) “Government” means the Federal Government or a Provincial Government in which the hospital is located;
- (e) “Health Officer” means the District Health Officer, Assistant District Health Officer and Medical Officer, by whatever designation called, of the local council in which the hospital is located and includes any person designated as such by the Federal Government or a Provincial Government for the purposes of the Act;
- (f) “hospital” includes a clinic, laboratory, dispensary, pharmacy, nursing home, health unit, maternity center, blood bank, autopsy center, mortuary, research institute and veterinary institutions, including any other facility involved in health care and biomedical activities;
- (g) “hospital waste” includes both risk waste and non-risk waste;

- (h) “infectious waste” means waste contaminated by any type of pathogens such as bacteria, viruses, parasite or fungi and includes cultures from laboratory work, waste from surgeries and autopsies, waste from infected patients, discarded or disposable materials and equipment which have been in contact with such patients and infected animals from laboratories;
 - (i) “local council” means local council in the geographical limits of which the hospital is located;
 - (j) “Medical Superintendent” means the Head of the hospital by whatever designation called;
 - (k) “non-risk waste” includes paper and cardboard, packaging, food waste and aerosols and the like;
 - (l) “pathological waste” includes tissues, organs, body parts, fetuses, blood and body fluids;
 - (m) “Pharmaceutical waste” includes expired or unused pharmaceutical such as bottles, boxes, gloves, masks, tubes, or vials;
 - (n) “radioactive waste” includes liquid, solid and gaseous waste contaminated with radionuclides generated from in-vitro analysis of body tissue and fluid, in-vivo body organ imaging and tumor localization, and investigation and therapeutic procedures;
 - (o) “risk waste” means infectious waste, pathological waste, sharps, pharmaceutical waste, genotoxic waste, chemical waste, and radioactive waste;
 - (p) “section:” means a section of the Act;
 - (q) “sharp” includes whether infected or not, needles, syringes, scalpels, infusion sets, saws and knives, blades, broken glass and any other item that could cut or puncture; and
 - (r) “waste management” includes waste segregation, waste collection, waste transportation, waste storage, waste disposal and waste minimization and reuse.
- (2) The words and expressions used but not defined in these rules shall have the same meaning as are assigned to them in the Act.

3. Responsibility for waste management. – Every hospital shall be responsible for the proper management of the waste generated by it till its final disposal in accordance with the provisions of the Act and the rules 16 to 22.

4. Waste Management Team. – (1) The Medical Superintendent shall constitute a Waste Management Team comprising the following by whatever designation called namely:-

- | | | |
|-----|------------------------------------|----------|
| (a) | Medical Superintendent | Chairman |
| (b) | Heads of all hospital departments. | Member |

- | | | |
|-----|--|--------|
| (c) | Infection Control Officer | Member |
| (d) | Chief Pharmacist | Member |
| (e) | Radiology Officer | Member |
| (f) | Senior Matron | Member |
| (g) | Head of Administration | Member |
| (h) | Hospital Engineer | Member |
| (i) | Head of the sanitation staff
r | Member |
| (j) | Other hospital staff members as the Medical Superintendent may designate | Member |
| (k) | A public representative of the District Administration nominated by the District Coordination Officer | Member |
| (l) | A representative of a Provincial Agency concerned, or, in the case of a hospital located in the Islamabad Capital Territory, the Federal Agency. | Member |
- (2) In a hospital where the posts under sub-rule (1) do not exist, the Medical Superintendent shall designate another staff member to perform the duties and responsibilities of the holder of such posts under rules 8 to 14.
- (3) The members of the Waste Management Team shall be informed in writing of their duties and responsibilities as provided under rules 8 to 14.
- (4) One of the members of the Waste Management Team shall be designated by the Medical Superintendent as the Waste Management Officer, who shall act as the Secretary of the Waste Management Team.

5. Duties and responsibilities of Waste Management Team. – A Waste Management Team shall be responsible for the preparation, monitoring, periodic review, revision or updating, if necessary, and implementation of the Waste Management Plan, and for supervision of all actions taken in compliance with the provisions of these rules.

6. Meetings of Waste Management Team. – (1) The meeting of a Waste Management Team shall be held at least twice a month.

- (2) One-third of the members of the Waste Management Team shall constitute the quorum for a meeting.

7. Duties and responsibilities of Medical Superintendent. – A Medical Superintendent shall -

- (a) constitute the Waste Management Team;
- (b) designate the Waste Management Officer;

- (c) facilitate meetings of the Waste Management Team and ensure implementation of its decisions;
- (d) supervise implementation, monitoring and review of the Waste Management Plan and ensure that it is kept updated;
- (e) arrange for a waste audit of the hospital by an external agency as may be designated for the purposes by the Government, involving analysis for the existing waste stream and assessment of existing waste management practices;
- (f) allocate sufficient financial and manpower resources to ensure efficient and effective implementation of the Waste Management Plan; and
- (g) ensure adequate training and refresher courses for the concerned hospital staff.

8. Duties and responsibilities of the Heads of Departments. – The Heads of Departments shall be responsible for the proper management of waste generated in their respective departments, and in particular shall, -

- (a) ensure that all doctors, nurses, clinical and staff in their respective departments, is aware of, and where required properly trained, in waste management procedures;
- (b) arrange proper supervision of the sanitary staff and sweepers to ensure that they comply with waste management procedures at all times; and
- (c) liaise with the Waste Management Officer for effective monitoring and reporting of mistakes and errors in implementation of the Waste Management Plan.

9. Duties and responsibilities of Infection Control Officer. – An Infection Control Officer shall be responsible for, -

- (a) giving advice regarding the control of infection and the standards of the waste disposal system;
- (b) identifying training requirements for each category of staff, and
- (c) organization of training and refresher courses on safe waste management procedures.

10. Duties and responsibilities of Chief Pharmacist. – A Chief Pharmacist shall be responsible for the sound management of pharmaceutical stores and in particular shall, -

- (a) give advice regarding formulation of appropriate procedures for management of pharmaceutical waste, and coordinate implementation of these procedures; and
- (b) ensure that the concerned hospital staff members receive adequate training in pharmaceutical waste management procedures.

11. Duties and responsibilities of Radiology Officer. - A Radiology Officer shall be responsible for the sound management of radioactive waste and in particular shall, -

- (a) give advice regarding formulation of appropriate procedure for management of radioactive waste and coordinate implementation of these procedures; and
- (b) ensure that the concerned hospital staff members receive adequate training in radioactive waste management procedures.

12. Duties and responsibilities of Senior Matron and Head of Administration. - A Senior Matron and Head of Administration shall be responsible for ensuring training of nursing staff, laboratory staff, medical assistants and sanitary staff and sweepers in waste management procedures and basic personal hygiene.

13. Duties and responsibilities of Hospital Engineer. - A Hospital Engineer shall be responsible for installation, maintenance and safe operation of waste storage facilities and waste handling equipment and where installed the hospital incinerator, and shall ensure that the concerned hospital staff members are properly trained for these purposes.

14. Duties and responsibilities of Waste Management Officer.- A Waste Management Officer shall, in addition to his duties and responsibilities, be responsible for the day to day implementation and monitoring of the Waste Management Plan and in particular shall, -

- (a) for waste collection,-
 - (i) ensure internal collection of waste bags, and waste containers and their transport to central storage facility of the hospital on daily basis;
 - (ii) liaise with the Supplies Department to ensure that an adequate supply of waste bags, containers, protective clothing and collection trolleys are available at all time;
 - (iii) ensure that sanitary staff and sweepers immediately replace used bags and containers with the new bags and containers of the same type and where a waste bag is removed from containers, is properly cleaned before a new bag is fitted therein; and
 - (iv) directly supervise the hospital sweepers assigned to collect and transport the waste;
- (b) for waste storage,-
 - (i) ensure correct use of the central storage facility and that it is kept secured from unauthorized access; and
 - (ii) prevent unsupervised dumping of waste bags and waste containers on the hospital premises, even for a short period of time;
- (c) for waste disposal,-

- (i) co-ordinate and monitor all waste disposal operations, and for this purpose meet regularly with the concerned representative of the local council;
 - (ii) ensure that the correct methods of transportation of waste are used on-site to the central storage facility or incinerator, if installed, and off-site by the local council; and
 - (iii) ensure that the waste is not stored on the hospital premises for longer than twenty-four hours, by coordinating with the incinerator operations and with the local council;
- (d) for staff training and information,-
- (i) liaise with the Heads of Departments, Head of Administration and Senior Matron to ensure that all doctors, clinical staff, nursing staff, laboratory staff and medical assistants are fully aware of their duties and responsibilities under the Waste Management Plan; and
 - (ii) ensure that sanitary staff and sweepers are not involved in waste segregation and that they only handle waste bags and containers in the correct manner; and
- (e) for incident management and control,-
- (i) ensure that emergency procedures are available at all times and that all staff members are aware of the action to be taken by them;
 - (ii) investigate, record and review all incidents reports regarding hospital waste management; and
 - (iii) record the quantities of waste generated by each department on a weekly basis.

15. Waste Management Plan. - (1) A Waste Management Plan shall be prepared by a Waste Management Officer for approval by the Waste Management Team, and shall be based on internationally recognized environment management standards such as the International Organization for Standardization 14000 series.

- (2) The Waste Management Plan shall include,-
- (a) a plan of the hospital showing the waste disposal points for every ward and department, indicating whether each point is for risk waste or non-risks waste, and showing the sites of the central storage facility for risk waste and the central storage facility for non-risk waste;
 - (b) details of the types, numbers and estimated costs of containers, waste bags and trolley required annually;
 - (c) timetables including frequency of waste collection from each wards and department;

- (d) duties and responsibilities for each of the different categories of hospital staff members who shall generate hospital waste and be involved in the management of the waste;
 - (e) an estimate of the number of staff members required for waste collection;
 - (f) procedures for the management of waste requiring special treatment such as autoclaving before final disposal;
 - (g) contingency plans for storage or disposal of risk waste in the event of breakdowns of incinerators, or of maintenance or collection arrangements;
 - (h) training courses and programs on waste management; and
 - (i) emergency procedures.
- (3) A representatives of a local council responsible for the collection and disposal of waste from the hospital shall be consulted in preparing and finalization of the Waste Management Plan.
 - (4) The Waste Management Plan shall be regularly monitored, reviewed, and revised and updated by the Waste Management Team as and when necessary.

16. Waste segregation, - (1) Risk waste shall be separated from non-risk waste at the ward bedside, operation theatre, laboratory, or any other room in the hospital where the waste is generated by a doctor, nurse, or other person generating the waste.

- (2) All disposal medical equipment and supplies including syringes, needles, plastic bottles, drips, and infusion bags shall be cut or broken and rendered non-reusable at the point of use by the person using the same, or in case any such used by such person.
- (3) All risk waste other than sharps, large quantities of pharmaceuticals, or chemicals, waste with high content of mercury or cadmium such as broken thermometers or used batteries, or radioactive waste shall be placed in a suitable container made of metal or tough plastic, with a pedal type or swing lid, lined with a strong yellow waste bag. The bags shall be removed when it is not more than three quarters full and sealed, preferably with self-locking plastic sealing tags and not by stapling. Each bag shall be labeled, indicating date, point of production, ward and hospital, quantity and description of waste and prominently displaying the biohazard symbol. The bags removed should be immediately replaced with a new one of the same type.
- (4) Sharps including the cut or broken syringes and needle shall be placed in metal or high density plastic containers resistant to penetration and leakage designed so that items can be dropped in using one hand and no item can be removed. The containers shall be colored yellow and marked "DANGER! CONTAMINATED SHARPS". The sharp container shall be closed when three quarters full. If the sharp container is to be incinerated, it shall be placed in the yellow waste bag with the other risk waste.

- (5) Large quantities of pharmaceutical waste shall be returned to the suppliers. Small quantities shall be placed in yellow waste bag preferably after being crushed, where this can be done safely.
- (6) Large quantities of chemical waste, and waste with a high content of mercury or cadmium shall not be incinerated, but shall be placed in chemical resistant containers and sent to specialized treatment facilities.
- (7) Radioactive waste which has to be stored to allow decay to background level shall be placed in a waste bag, in a large yellow container or drum. The container or drum shall be labeled, showing the radionuclide's activity on a given date, and the period of storage required, and marked "RADIOACTIVE WASTE", with the radiation symbol. Non-infectious radioactive waste which has decayed to background level shall be placed in yellow waste bags. High level and relatively long half-life radionuclides shall be packaged and stored in accordance with instructions of the original supplier under supervision of the Radiology Officer and sent back to the supplier for disposal.
- (8) Non-risk waste shall be placed in a suitable container lined with a white waste bag. Adequate numbers of non-risk waste containers shall be placed in all areas of the hospital and notices affixed to encourage visitors to use them.

17. Waste collection, - (1) Waste shall be collected in accordance with the schedules specified in the Waste Management Plan.

- (2) Sanitary staff and sweepers shall, when handling waste, wear protective clothing at all times including face masks, industrial aprons, leg protectors, industrial boots and disposable or heavy duty gloves, as required.
- (3) Sanitary staff and sweepers shall ensure that,
 - (a) waste is collected at least once daily;
 - (b) all waste bags are labeled before removal, indicating the point of production, ward, hospital and contents;
 - (c) the removed waste bags and containers are immediately replaced with new ones of the same type; and
 - (d) where a waste bag is removed from a container, the container is properly cleaned before a new bag is fitted therein.

18. Waste transportation, - (1) For on-site transportation, a waste collection trolley shall be free of sharp edges, easy to load, unload and to clean, and preferably a stable three or four wheeled design with high sides. The trolley shall be cleaned regularly.

- (2) The sealed waste bags shall be carefully loaded by hand onto the trolley to minimize the risks of punctures or tears.
- (3) Yellow-bagged risk waste and white-bagged non-risk waste shall be collected on separate trolleys which shall be painted or marked in the corresponding colors.
- (4) The collection route shall be the most direct one from the final collection point to the central storage facility designated in the Waste Management Plan. The collected

waste shall not be left even temporarily anywhere other than at the designated central storage facility.

- (5) Transportation off-site shall, unless otherwise agreed, be the responsibility of the local council which shall ensure that,-
- (a) all yellow-bagged waste is collected at least once daily;
 - (b) all staff members handling yellow-bagged waste wear protective clothing;
 - (c) yellow-bagged waste is transported separately from all other waste;
 - (d) vehicles or skips are only used for the carriage of yellow-bagged waste and are free of sharp edges, easy to load and unload by hand, easy to clean and disinfect, and fully enclosed, preferably with hinged and lockable shutters or lids, to prevent any spillage in the hospital premises or on the highway during transportation;
 - (e) all concerned staff members are properly trained in the handling, loading, unloading, transportation and disposal of yellow-bagged waste, and are fully aware of emergency procedures for dealing with accidents and spillages;
 - (f) all vehicles carry adequate supply of empty waste bags, protective clothing, cleaning tools and disinfectants to clean and disinfect any spillage;
 - (g) the transportation of waste is properly documented and all vehicles carry as consignment note from the point of collection to the incinerator or land-fill or other final disposal facility; and
 - (h) all vehicles are cleaned and disinfected after use.

19. Waste storage,- (1) A separate central storage facility shall be provided for yellow-bagged waste with a sign prominently displaying the biohazard symbol and clearly mentioning the facility stores risk waste.

- (2) The designated central storage facility shall,-
- (a) be located within the hospital premises close to the incinerator, if installed, but away from food storage or food preparation areas;
 - (b) be large enough to contain all the risk waste produced by the hospital with spare capacity to cater for collection or incinerator breakdowns;
 - (c) be easy to clean and disinfect with an impermeable hard standing base, plentiful water supply and good drainage, lighting and ventilation;
 - (d) have adequate cleaning equipment, protective clothing, waste bags and containers located nearby; and
 - (e) be easily accessible to collection vehicles and authorized staff, but totally enclosed and secure from unauthorized access including inaccessible to animals, insects and birds.

- (3) No materials other than yellow-bagged waste shall be stored in the central storage facility.
- (4) No waste shall be stored at the central storage facility for more than twenty-four hours:

Provided that in case of emergency where infectious waste is required to be stored for more than twenty-four hours, it shall be refrigerated at a temperature of 30C to 80C.
- (5) Containers with radioactive waste shall be stored in a specifically marked area in a lead-shielded storage room.
- (6) Containers with chemical waste which are to be specialized treatment facilities shall also be stored in a separate room.
- (7) The central storage facility shall be thoroughly cleaned in accordance with procedures stipulated in the Waste Management Plan.

20. Waste disposal,- (1) Depending upon the type and nature of the waste material and the organisms in the waste, risk waste shall be inactivated or rendered safe before final disposal by a suitable thermal, chemical irradiation incineration, filtration or other treatment method, or by a combination of such methods involving proper validation and monitoring procedures. Effluent from the waste treatment methods shall also be periodically tested to verify that it conforms to the National Environmental Quality Standards before it is discharged into the sewerage system.

- (2) Yellow-bagged waste shall be disposed of by burning in an incinerator, by burial in a landfill or by any other method of disposal approved by the Federal Agency or a Provincial Agency concerned.
- (3) Sharps containers which have not been placed in yellow waste bags for incinerator, shall be disposed of by encapsulation or other method of disposal approved by the Federal Agency or a Provincial Agency concerned.
- (4) The method of disposal, whether by burning in an incinerator or by burial in a landfill or otherwise, shall be operated by a hospital only after approval of its Environmental Impact Assessment in accordance with the provisions of section 12:

Provided that hospitals, local councils or other persons already using an incinerator or landfill on the date of commencement of these rules shall submit an Initial Environmental Examination in respect thereof to the Federal Agency or a Provincial Agency concerned within two months from the said date, and may continue to use the incinerator or landfill pending decision on the EIA.
- (5) All risk waste delivered to an incinerator shall be burned within twenty-four hours.
- (6) Ash and residues from incineration and other methods shall be placed in robust, non-combustible containers and sent to the local council's designated risk waste landfill site.
- (7) Landfills shall be located at sites with minimal risk of pollution of groundwater and rivers. Access to the site shall be restricted to authorized personnel only. Risk waste shall be buried in a separate area of the landfill under a layer of earth or non-risk

waste of at least one meter depth which shall then be compacted. The landfill shall be regularly monitored by the local council to check groundwater contamination and air pollution. The local council shall also ensure that the landfill operators are properly trained, especially in safe disposal procedures, use of protective equipment and hygiene and emergency response procedures.

- (8) Daily collection of risk waste from hospitals shall be taken by the vehicles of the local council immediately to the designated landfill site or incinerator by the most direct route in accordance with prior scheduling of collection times and journey times.
- (9) Radioactive waste which has decayed to background level shall either be buried in the landfill site or incinerated.

Explanation. - An incineration facility for radioactive waste shall require, in addition to approval of its EIA by the Federal agency or Provincial agency concerned, registration with and issue of license by the Pakistan Nuclear Regulatory Authority (PNRA), and reconciled with the requirements of the Pakistan Nuclear Regulatory Authority Ordinance 2001 (III of 2001) and the guidelines made thereunder in connection with management and disposal of radioactive waste.

- (10) All liquid infectious waste shall be discharged into the sewerage system only after being properly treated and disinfected.

Explanation I. – Liquid radioactive waste shall be discharged into the sewerage system only after it has decayed to background level and after it has been ensured that the radioactive materials are soluble and dispensable in water, failing which it shall be filtered.

Explanation II. – Radioactive waste containing Tritium and Carbon-14 isotopes shall be stored separately and shipped to the disposal site of the Pakistan Atomic Energy Commission, Karachi Nuclear Power Plant (KANUPP), Karachi or Pakistan Institute of Science & Technology (PINSTECH), Islamabad.

- (11) In the case of gaseous radioactive waste, portable filter assemblies shall be used to extract iodine and xenon. The used filters shall be treated as solid radioactive waste.

21. Accidents and spillages. – (1) In case of accidents or spillages, the following action shall be taken, namely:-

- (a) the emergency procedures mentioned in the Waste Management Plan shall be implemented immediately;
- (b) the contaminated area shall be immediately evacuated, if required;
- (c) the contaminated area shall be cleared and, if necessary, disinfected;
- (d) exposure of staff members shall be limited to the extent possible during the clean-up operation, and appropriate immunization may be carried put, as required; and
- (e) any emergency equipment used shall be immediately replaced in the same location from which it was taken.

- (2) All hospital staff members shall be properly trained and prepared for emergency response including procedures for treatment of injuries, clean-up of the contaminated area and prompt reporting of all incidents of accidents, spillages and near-misses.
- (3) A Waste Management Officer shall immediately investigate record and review all such incidents to establish causes and shall submit his report to a Waste Management Team.
- (4) The Waste Management Team shall review the report, and where necessary shall amend the Waste Management Plan to prevent recurrence of such incidents, and take such further action as may be required.

22. Waste minimization and reuse.-(1) To minimize hospital waste, each hospital shall introduce, -

- (a) purchasing and stock control, involving careful management of the ordering process to avoid overstocking, particularly with regard to date-limited pharmaceutical and other products, and to accord preference to products involving low amounts of packaging.
 - (b) waste recycling programs, involving return of unused or waste chemicals in quantity to the supplier for reprocessing, return of pressurized gas cylinders to suppliers for refilling and reuse, sale of materials such as mercury, cadmium, nickel and lead-acid to specialized recyclers, and transportation of high level radioactive waste to the original supplier; and
 - (c) waste reduction practices in all hospital departments.
- (2) To encourage reuse, each hospital shall separately collect and sterilize, either thermally or chemically in accordance with approved procedures, surgical equipment and other items which are designed for reuse and are resistant to the sterilization process.

23. Inspection. – (1) A Health Officer may inspect any hospital, incinerator or landfill located within the area of his jurisdiction to check that the provisions of these rules are being complied with.

- (2) The Government shall constitute a Hospital Complaint Scrutiny Committee for each district and for the Islamabad Capital Territory, comprising two Medical Superintendents of hospitals owned by the Government, one of which shall be the Chairman of the Committee, and one Chief Executive of a private sector hospital:

Provided that the Hospital Complaint Scrutiny Committee for a district or for the Islamabad Capital Territory shall comprise of Medical Superintendents of hospitals located outside the said district or the Islamabad Capital Territory, as the case may be.

- (3) If a Health Officer discovers any contravention of any provision of these rules, he shall report the same to the concerned Hospital Complaint Scrutiny Committee.
- (4) The Hospital Complaint Scrutiny Committee shall review details of the contravention reported by the Health Officer and after giving an opportunity of being heard to the

duly authorized representative of the hospital or incinerator or landfill, recommend,
-

- (a) that no further action be taken in the circumstances of the case;
- (b) that another inspection be carried out within a specified period not exceeding one month, if the hospital or incinerator or landfill has taken steps to comply with the rules contravened;
- (c) that action be initiated against the person responsible through the District Health Officer or a local council or the Federal agency or the Provincial agency concerned as the case may be.

24. Hospital Waste Management Advisory Committee. – (1) The Federal Government shall by notification in the official Gazette, constitute a Hospital Waste Management Advisory Committee for the Islamabad Capital Territory comprising: -

- (a) Secretary, Ministry of Health Chairman
- (b) Joint Secretary, Ministry of Local Govt. & Rural Dev. Member
- (c) Director General, Environment Cell, CDA. Member
- (d) President, Pakistan Medical Association or his representative Member
- (e) Director, Health Services Academy Member
- (f) Executive Director, Pakistan Institute of Medical Sciences. Member
- (g) Medical Superintendent, Federal Government Services Hospital Member
- (h) Chief Executive of two hospitals in the private sector Members
- (i) Representative of two non-government organizations. Members
- (j) Director-General, Pakistan Environmental Protection Agency. Member
- (k) Director (Lab/NEQS), Pak-EPA Member/Secretary

(2) Each Provincial Government shall, by notification in the official Gazette, constitute a Hospital Waste Management Advisory Committee for the Province comprising, -

- (a) Secretary, Provincial Health Department. Chairman
- (b) Representative of Ministry of Health. Member
- (c) Representative, Provincial Environment Department Member
- (d) Representative, Provincial Local Government Department. Member
- (e) President, Pakistan Medical Association or his representative. Member
- (f) Vice Chancellor of a Medical University in the Province. Member

- (g) Medical Superintendent of hospitals in the public sector and Chief Executives of two hospitals in the private sector. Member
 - (h) Representative of two non-governmental organizations. Member
 - (i) DG, Provincial Environmental Protection Agency. Member
- (3) The Hospital Waste Management Advisory Committee shall, -
- (a) periodically review the implementation of the rules and recommend amendment there to; and
 - (b) recommend adoption of such policy measures, plans and projects as it may consider necessary for the effective management of hospital waste in the Islamabad Capital Territory and Provinces, as the case may be.

25. Phased implementation. – The Federal Government may, by notification in the official Gazette, exempt any class of hospitals from all or any of the provisions of these rules.

26. Applicability of section 14. – Each hospital generating risk waste shall apply to the Federal Agency for issuance of license for handling hazardous substances and the provision of section 14 shall apply for the purpose of granting such license.

Draft Terms of Reference for the Annual Environmental and Social Monitoring/Assessment

Background

Pakistan Poverty Alleviation Fund (PPAF) is the lead apex institution for community-driven development in the country. Set up by the Government of Pakistan, as an autonomous not-for-profit organization, PPAF enjoys facilitation and support from the Government of Pakistan, The World Bank, International Fund for Agricultural Development (IFAD), KfW Entwicklungsbank (Development Bank of Germany) and other statutory and corporate donors. PPAF aims to be the catalyst for improving the quality of life, broadening the range of opportunities and socio-economic mainstreaming of the poor and disadvantaged, especially women. The core operating units of the PPAF deliver a range of development interventions at the grassroots/community level through a network of more than 100 Partner Organizations across the country. These include social mobilization, livelihood support, access to credit, infrastructure and energy, health, education and disaster management. Externally commissioned independent studies have demonstrated positive outcomes and impact of PPAF interventions on the lives of benefiting communities related to their economic output, household incomes, assets, agricultural productivity skills and other quality of life indices. For a complete profile, please visit our website at <http://www.pfaf.org.pk/>

Objective

The objectives of the proposed study are to assess the implementation performance of environmental and social safeguards by PPAF as an Organization as reflected in PPAF's Environmental and Social Management Framework (ESMF), effectiveness of ESMF as a tool for the purpose, as well as compliance with the requirements as set in it, by Partner Organizations (POs) in PPAF assisted interventions as well as PPAF itself.

Scope of Work

All PPAF assisted interventions have to undergo the screening of environmental and social risks as defined in the Environmental and Social Management Framework (ESMF) to ensure compliance of environmental and social safeguards in order to avoid or mitigate any negative impacts on the physical, biological and social environment caused by PPAF supported projects/subprojects.

ESMF outlines a well-defined monitoring mechanism of Environmental and Social Safeguards management through a rigorous internal and external monitoring process. In addition to internal monitoring by PPAF and its POs, validation of ESMF compliance by an external party is one of the monitoring instruments recommended. For this, Third Party Validation (TPV) is carried out on an annual basis through an open bidding to attract the most qualified firms.

The TPV must conduct a thorough assessment of the revised ESMF implementation performance and its various requirements including integration of environmental and social risk management in subproject designs, institutional arrangements, capacity building, implementation, environmental monitoring, and documentation and reporting. The detailed scope of work includes:

1. Review the implementation status of mitigation measures in the ESMF and the related documentation. Review Forms A and B prepared/filled by POs.

2. Review the environmental and social monitoring regime as specified in the ESMF, review reports of monitoring carried out by PPAF and its POs, identify non-compliances/gaps, and recommend changes, to improve monitoring mechanisms, if any. It will include providing feedback to improve integration/mainstreaming of ESMF in PPAF operations such as Back to Office Reports and monitoring tools of various PPAF units.
3. Review the quarterly and annual progress reporting regime as specified in the ESMF, review any reports prepared by PPAF and its POs, identify non-compliances/gaps, and recommend changes, if any.
4. Review the training regime as specified in ESMF, review the trainings carried out thus far by PPAF for POs, identify non-compliances/gaps, and recommend changes, if any. Assess usefulness and effectiveness of these trainings and recommend ways and means in consultation with POs to make training program more effective.
5. Review the manuals of PPAF's operational units to identify the existing gaps that may hamper the effective implementation of ESMF.
6. Review the output indicators as designed by the ESM Unit for the Results Framework 2011-15, as well as for quarterly progress reporting (including their efficacy and timeliness)
7. Identify any outstanding environmental and/or social issues/impacts associated with the subprojects already implemented, and recommend mitigation measures/ corrective actions where required.
8. Review the report of the first TPV carried out for PPAF-III, particularly progress against its conclusions and recommendations.
9. Based on the above, formulate recommendations for effective implementation of ESMF, overall management of the environmental and social aspects associated with the interventions under PPAF-III Project as well as an effective approach to poverty alleviation under the theme of environment-poverty nexus.
10. Identify 'best-in-class' cases for PPAF to document and prepare case studies, demonstrating effective ESM compliance, and/or a replicable environmental management initiative.

Methodology

1. Desk review including but not limited to the Environmental and Social Management Framework; Manuals of PPAF Operational Units; Monitoring reports of ESM Unit and other PPAF units; Quarterly and Annual Progress reports of ESM Unit etc.
2. Consultation meetings with PPAF management and operational units; selected Partner Organizations; three tiers of community organizations and beneficiaries through focus group discussions, in-depth Interviews of key informants and use of structured questionnaires.
3. Carry out environmental and social audit and review a sample of interventions, both initiated and completed under PPAF-III project between July {YEAR} to June {YEAR} that must include Community Physical Infrastructure (CPI), Water Energy and Climate Change (WECC), Education Health and Nutrition (EHN), Livelihood Enhancement and Protection (LEP) and Microfinance. For infrastructure and social sector development interventions under CPI, WECC and EHN, at least a 5% sample entailing 96 sub-projects must be reviewed and audited. For Livelihood Enhancement and Protection (LEP) and Microfinance interventions (private goods), a random sampling method will be used that must represent all categories of interventions.

Deliverables

1. Submission of a work plan for the study that provides timeline against each action by {DATE}.
2. Consultation with PPAF, POs and WB's Environmental and Social Development Specialist/s and develop an inception report of the findings of consultation by {DATE}

3. After review of the sampled interventions and based on the findings of stakeholders' consultations the consultant will develop an action plan of the study that includes deployment of enumerators, methodology and way forward (the inception report) by {DATE}
4. Submission of first draft of the report by {DATE}.
5. Incorporation of comments by PPAF ESM team by {DATE} and onward submission to WB for comments
6. Incorporation of PPAF and WB comments and compilation of final draft report by {DATE}
7. Incorporation of PPAF and WB comments on final draft by {DATE}
8. Presentation of the final report to PPAF and WB by {DATE}
9. Submission of final report to PPAF on {DATE}

Reporting & Coordination:

Consultant will report to Group Head, Compliance and Quality Assurance who may delegate contract coordination and other management tasks to a member of the ESM Unit.

Facilities and Benefits

Consultant will be provided access to PPAF research resources and other relevant materials for the proposed study.

Indigenous Peoples Planning Framework

The draft Indigenous Peoples Framework is currently being reviewed by the World Bank and would be added to the ESMF after finalization.



The emblem denotes three words; ISHQ, ILM, AMAL
meaning passion, knowledge and action – the core values
driving the institution



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