PATRIP Foundation

Environmental and Social Policy

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<th>Acronym</th>
<th>Term</th>
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<tr>
<td>E&amp;S</td>
<td>Environment and Social</td>
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<tr>
<td>ESHS</td>
<td>Environmental and Social and Health and Safety</td>
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<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
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<td>ESMP</td>
<td>Environmental &amp; Social Management Plan</td>
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<tr>
<td>ESMS</td>
<td>Environmental &amp; Social Management System</td>
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<tr>
<td>EWR</td>
<td>Explosive War Remnants</td>
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<tr>
<td>IED</td>
<td>Improvised Explosive Device</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<tr>
<td>INGO</td>
<td>International Non-Governmental Organisation</td>
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<tr>
<td>IPM</td>
<td>Integrated Pest Management</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<tr>
<td>IP</td>
<td>Implementing Partner</td>
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<td>KfW</td>
<td>Kreditanstalt für Wiederaufbau</td>
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<tr>
<td>KCUS</td>
<td>KfW Environment and Social Competence Centre</td>
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<td>LACP</td>
<td>Land Acquisition Compensation and Livelihood Restoration Framework</td>
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<tr>
<td>MoU</td>
<td>Memorandum of Understanding</td>
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<tr>
<td>NOC</td>
<td>Non-Objection-Certificate</td>
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<tr>
<td>OHS</td>
<td>Occupational safety and health</td>
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<tr>
<td>UXO</td>
<td>Unexploded Ordnances</td>
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1 CONTEXT AND PURPOSE

PATRIP Foundation projects focus on border areas which are often isolated, fragile, unsecure as well as prone to terrorist attacks and assaults and characterized by low levels of human development. A challenging topography and climate conditions as well as poor infrastructure divide ethnic groups living on both sides of the borders, while contributing to the isolation and vulnerability of the local population. Further constraints are the low agricultural productivity, few alternative economic possibilities as well as difficult access to markets and social services.

The PATRIP Foundation was initiated in 2010 by the German Federal Foreign Office in cooperation with the German state-owned KfW Development Bank. The PATRIP Foundation seeks to promote integration and enhance (cross-border) development cooperation and exchange in particular through short- and medium-term measures that promote the stabilisation of fragile states, help to contain crisis and support transitional situations, respectively, and reduce the effects of a crisis.

Measures can be implemented in individual countries as well as in regions (cross-border) with the aim to help stabilizing fragile regions by supporting their economic and social development with multi-sectoral measures.

Projects are implemented under strong time and budget constraints by local and international NGOs (“Implementing Partners”) that hire local contractors to perform the works. PATRIP is represented by a consultant to perform implementation and monitoring tasks (“PATRIP Consultant”). Projects are funded by contributions from different countries, for which a special trust fund, the PATRIP Foundation, was established in 2011 to enable pooling of funds. PATRIP Foundation receives various lines of credit, including from the KfW, and is therefore obliged to follow the environmental and social (E&S) requirements as set out in the Sustainability Guidelines of KfW (2019).

Chapter 1, Context and Purpose, of this document gives the position of PATRIP Foundation and describes the guiding principles and implementation requirements adopted to address E&S issues in the funded projects.

The Environmental & Social Management System (ESMS) described in Chapter 2, 3, and 4 of this document defines procedures, tools and responsibilities for the assessment and management of E&S topics throughout the entire project lifecycle. Adequate assessment and management of E&S risks can enhance sustainability of PATRIP Foundation projects and thus promote long-term development in the PATRIP focus regions. PATRIP Foundation already has a
number of documents such as the “Project Application Manual” and the “Project Implementation Manual” in place that have been updated in order for the ESMS to be embedded during all project life cycle stages.

1.1 **MISSION STATEMENT**

The purpose of the PATRIP Foundation is the promotion of development cooperation, in particular through measures with short and medium-term effect, which serve to stabilise fragile states, contain crises or support transitions, and mitigate the consequences of crises. Furthermore, projects funded under PATRIP aim to contribute to peace building through strengthening social integration, in particular of marginalized population groups. These measures can be implemented both in individual countries or regionally (cross-border).

Committed to address environmental and social issues related to its initiatives and projects, the PATRIP Foundation has elaborated this Environmental & Social Policy (E&S Policy) that is endorsed by its board and translated into guiding principles and implementation commitments.

1.2 **GOAL**

The goal of this E&S Policy is to ensure that all projects supported by PATRIP Foundation are implemented in a sustainable way.

1.3 **GUIDING PRINCIPLES**

PATRIP is committed to provide its best efforts to avoid or mitigate adverse environmental, social and climate impacts, if any, of the projects in its portfolio. PATRIP seeks to:

- avoid, reduce or limit adverse environmental and social impacts and enhance environmental and social benefits from its initiatives;
- preserve and protect biodiversity and sustainably manage natural resources;
- avoid adverse impacts upon the living conditions of communities;
- ensure and support health protection at work and the occupational health and safety of people working on PATRIP projects;
• condemn forced labour and child labour, ban discrimination\(^1\) in respect of employment as well as occupation and support the freedom of association and the right to collective bargaining; and

• protect and preserve cultural heritage.

1.4 **IMPLEMENTATION OF E&S POLICY PRINCIPLES**

In order to meet the above principles, PATRIP Foundation has set the following E&S operational requirements to its funded projects, within the constraints of the financial targets set:

• Screen all projects requesting funding by the PATRIP Foundation against the Exclusion List (see section 1.5);

• Screen all projects for E&S impacts and benefits prior to any funding;

• Define adequate management measures to avoid or mitigate potential environmental, social or climate impacts;

• Ensure project compliance with national and international environment, social, health and safety regulations applicable to the financed projects;

• Work together with Implementing Partners and contractors via the yearly PATRIP Foundation Meeting with Implementing Partners and individual follow-up, to get them to consider project related E&S management risks in each project and, if such risks are identified, ensure that they are adequately addressed during the life cycle of the project;

• Implement and maintain an Environmental and Social Management System (ESMS) within PATRIP Foundation to deliver the commitments under this policy and to monitor alignment with this policy across the project portfolio; and

• Communicate PATRIP Foundation’s E&S principles to external stakeholders.

\(^1\) Based on ethnic origin, nationality, age, sex, religion, disability or any other discrimination criteria.
1.5 **EXCLUSION LIST**

The following activities/items are ineligible for funding by PATRIP Foundation:

1. Production or trade in any product or activity subject to national or international phase-out or prohibition regulations or to an international ban, for example.
   i. certain pharmaceuticals, pesticides, herbicides and other toxic substances (under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability"),
   ii. ozone depleting substances (under the Montreal Protocol),
   iii. protected wildlife or wildlife products (under CITES / Washington Convention)
   iv. prohibited transboundary trade in waste (under the Basel Convention).

2. Investments which could be associated with the destruction * or significant impairment of areas particular worthy of protection (without adequate compensation in accordance with international standards).

3. Production or trade in controversial weapons or critical components thereof (nuclear weapons and radioactive ammunition, biological and chemical weapons of mass destruction, cluster bombs, anti-personnel mines, enriched uranium).

4. Production or trade in radioactive material. This does not apply to the procurement of medical equipment, quality control equipment or other application for which the radioactive source is insignificant and/or adequately shielded.

5. Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.

6. Destructive fishing methods or drift net fishing in the marine environment using nets in excess of 2.5 km.

7. Nuclear power plants (apart from measures that reduce environmental hazards of existing assets) and mines with uranium as an essential source of extraction.

8. Prospection, exploration and mining of coal; land-based means of transport and related infrastructure essentially used for coal; power
plants, heating stations and cogeneration facilities essentially fired with coal, as well as associated stub lines. **

9. Non-conventional prospection, exploration and extraction of oil from bituminous shale, tar sands or oil sands.

10. Activities involving any form of exploitation, abuse and harassment, sexual or otherwise, especially in case of vulnerable groups, where

   - sexual abuse is defined as actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;

   - sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;

   - sexual harassment is defined as any form of unwanted verbal, non-verbal or physical conduct of a sexual nature with the purpose or effect of violating the dignity of a person, in particular when creating an intimidating, hostile, degrading, humiliating or offensive environment.

11. Infrastructure meant to host armed forces such as military buildings, prisons, police stations.

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* "Destruction" means (i) the destruction or severe deterioration of the integrity of an area caused by a major and prolonged change in the use of land or water, or (ii) the alteration of a habitat which leads to the inability of the affected area to perform its function.

** Investments in power transmission grids with significant coal-based power feed-in will only be pursued in countries and regions with an ambitious national climate protection policy or strategy (NDC), or where the investments are targeted at reducing the share of coal-based power in the relevant grid. In developing countries, heating stations and cogeneration facilities (CHP) essentially fired with coal can be co-financed in individual cases based on a rigid assessment, if there is a particularly high sustainability contribution, major environmental hazards are reduced, and if there demonstrably is no more climate-friendly alternative.
Furthermore, the PATRIP Foundation does not finance the following activities as per the IFC Exclusion List:

- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCBs, wildlife or products regulated under CITES.
- Production or trade in weapons and munitions.¹
- Production or trade in alcoholic beverages (excluding beer and wine).¹
- Production or trade in tobacco.¹
- Gambling, casinos and equivalent enterprises.¹
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.
- Production or trade in unbonded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.
- Drift net fishing in the marine environment using nets in excess of 2.5 km. in length.

A reasonableness test will be applied when the activities of the Implementing Partner would have a significant development impact but circumstances of the country require adjustment to the Exclusion List.

All financial intermediaries (FIs), except those engaged in activities specified below*, must apply the following exclusions, in addition to IFC's Exclusion List:

- Production or activities involving harmful or exploitative forms of forced labor²/harmful child labor.³
- Commercial logging operations for use in primary tropical moist forest.
- Production or trade in wood or other forestry products other than from sustainably managed forests.

* When investing in microfinance activities, FIs will apply the following items in addition to the IFC Exclusion List:
- Production or activities involving harmful or exploitative forms of forced labor²/harmful child labor.³
• Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.

• Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples.

* Trade finance projects, given the nature of the transactions, FIs will apply the following items in addition to the IFC Exclusion List:

• Production or activities involving harmful or exploitative forms of forced labor\(^2\)/harmful child labor\(^3\).

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**FOOTNOTES**

\(^1\) This does not apply to project sponsors who are not substantially involved in these activities.

\(^2\) "Not substantially involved" means that the activity concerned is ancillary to a project sponsor's primary operations.

\(^3\) Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

\(^4\) Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development.

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2  **ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM**

2.1  **PURPOSE**

The Environmental & Social Management System (ESMS) described in this section defines procedures, tools and responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with projects supported by the PATRIP Foundation throughout the entire project lifecycle, in line with requirements as set out in the Sustainability Guidelines of KfW (2019).

The implementation of the ESMS enables PATRIP Foundation to

• Achieve best E&S practices,

• Assess and address E&S risks and impacts,

• Monitor and improve its E&S performance and communicate this to its donors, and

• Enhance sustainability of PATRIP Foundation projects and thus promote long-term development in the PATRIP focus regions.
2.2 **IMPLEMENTATION PRINCIPLES**

PATRIP operates in regions characterized by substantial security threats, lack of basic infrastructure and supply networks and poor private sector investments. In line with paragraph 12 of World Bank Policy on Investment Project Financing (formerly known as OP 10.00)\(^2\) which provides exceptions to normal E&S requirements in cases where the Borrower or, as appropriate, the member country is deemed to:

- be in urgent need of assistance because of a natural or man-made disaster or conflict; or
- experience capacity constraints because of fragility or specific vulnerabilities.

The ESMS is intended to be applied by PATRIP Foundation in a prudent and practical manner which takes into account limitations arising through the local/regional circumstances but at the same time adheres to the requirements of the KfW Sustainability Guideline.

The ESMS is a living document. It is owned and regularly updated by PATRIP Foundation to reflect latest experience and learnings from projects on the ground and/or updates of the KfW Sustainability Guideline.

2.3 **SCOPE OF APPLICATION**

The ESMS is applicable for all projects receiving funding via PATRIP Foundation, which include small to mid-scale social and economic infrastructure measures to facilitate cross-border exchange. The projects can be divided into five main types:

- **Basic infrastructure building:** construction and rehabilitation of:
  - Schools and vocational training centres in rural and remote areas;
  - Rural health facilities and medical treatment centres, such as:
    - Rural basic health units / centres
    - Burn & trauma centres on the premises of bigger hospitals
    - Mother & child centres on the premises of bigger hospitals
    - Special treatment facilities on the premises of a bigger hospital

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- Extension of existing district hospitals
  - Rural markets and trade centres
  - Youth / community or sport centres
  - Sport stadiums; and
  - Reception centres for refugees or internally displaced people

- Transportation infrastructure: construction, upgrade and rehabilitation of bridges and gravel roads.

- Power transmission and distribution: construction and rehabilitation of electricity transmission lines (110 kV maximum) and distribution networks.

- Water supply and sanitation: establishment and rehabilitation of small-scale rural water supply schemes and pilot sanitation projects (i.e., latrines, dry toilets)

- Clearing land mines and other explosive remnants of war; and

- Soft skill interventions, such as capacity building, conflict resolution, and strengthening of local governance.

- Irrigation and agriculture: small scale extension, upgrade and rehabilitation of irrigation structures and agricultural areas.

2.4 STRUCTURE

The ESMS presents the reference standards on which it is based (section 2.5), describes the adverse E&S impacts expected per type of project (section 2.6), proposes general rules for risk identification and management (section 3) and proposes standard mitigation measures per type of project (section 4).

2.5 REFERENCE E&S STANDARDS AND KfW REQUIREMENTS

PATRIP Foundation receives funding from KfW and is therefore required to comply with the KfW Sustainability Guideline (2019) 3.

2.5.1 The KfW Sustainability Guideline

According to the KfW Sustainability Guideline projects must undergo an assessment process, essential steps of which are:

3 Nachhaltigkeitsrichtlinie_EN.pdf (kfw-entwicklungsbank.de)
• **Screening**: Preliminary appraisal, called ‘Screening’, aims at determining the environmental, climate and social relevance of a project. All projects are classified into one of the following four categories according to the relevance of their potentially negative E&S impact:

- **Category A** high E&S risk and impacts;
- **Category B+** substantial E&S risk and impacts;
- **Category B** low/moderate E&S risk and impacts; or
- **Category C** no E&S risks and impacts

• **Scoping**: For projects involving medium and high E&S risks, during the Scoping stage the appropriate scope of future E&S assessment is determined to identify and assess the project’s environmental, climate and social consequences and risks more accurately.

• **Environmental and Social Impact Assessment (ESIA)**: projects involving medium and high E&S risks (i.e. Categories A and B+) usually require an ESIA according to international standards (“bankable ESIA”) or further studies based on the outcomes of the Scoping stage.

The vast majority of projects funded by PATRIP Foundation are expected to be Category B projects, with a smaller number of Category C projects funded occasionally; Category A projects are excluded from funding by PATRIP Foundation for reasons of time and budget constraints (also see section 3). In case of funding via KfW, Category B+ projects require the involvement and No Objection of KfW’s Environment and Social Competence Centre (KCUS).

2.5.2 *International Standards and Guidelines*

The *KfW Sustainability Guideline* itself does not comprise separate standards for E&S assessment, mitigation and monitoring but refers to *World Bank Group (WBG) Environmental and Social Safeguards* (for government-implemented projects) and *International Finance Corporation (IFC) Environmental and Social Performance Standards (PS)* (for private-sector projects), as well as the various *WBG/IFC Environmental, Health and Safety (EHS) Guidelines* as applicable to a particular project type. For PATRIP Foundation projects, the IFC PS and WBG/IFC Guidelines are applicable; a brief summary of the IFC PS is provided in Annex A. The proposed mitigation measures (see Chapter 4) are based on these standards.
2.5.3 National Legal Framework

As per the PATRIP Foundation E&S Policy (Chapter 1), all activities supported by PATRIP Foundation need to be compliant with provisions of legal framework of the host countries. It is the Implementing Partners’ responsibility to demonstrate that the projects are in line with national obligations.

Implementing Partners commit to comply with national legislation by signing a Declaration of Undertaking, which forms part of the contractual documentation. The section of the Separate Agreement that forms part of contractual documentation between PATRIP Foundation and the Implementing Partner related to Environmental, Social and Health & Safety Compliance also requires compliance with national regulations and standards.

2.6 Typical Potential E&S Impacts and Risks

Although it is expected that the overall impacts of the PATRIP projects will be largely positive, risks and adverse impacts are not to be neglected. The typical risks and impacts that are anticipated in the vast majority of the PATRIP projects are mentioned below:

- Impacts due to the siting of the projects
  - Impacts on land take or restriction of access on natural resources (threats to livelihood);
  - Risks due to presence of explosives war remnants;
  - Impacts on natural habitats and or flora/fauna; or
  - Impacts on cultural heritage.

- Impacts on workers’ health and safety (Occupational Health & Safety) during the construction activities. This can range from minor injuries to fatal accidents.

- Impacts on labour conditions during the construction activities, particularly for the cases of multiple levels of contractors and subcontractors. Such impacts might include, but are not limited to:
  - Employment of children as per ILO Conventions (child labour);
  - Remuneration non-compliant to legal requirements; non-transparent remuneration;
  - Harassment, intimidation, and/or exploitation of workforce;
  - Discriminations toward the workers due to origin, gender, age, ethnicity or any other criteria non-related to job.
- Impacts on the community during construction activities, particularly linked to
  - Accidents on open construction sites on which the access to community is not appropriately restricted;
  - Accidents related to traffic;
  - Disturbances due to exposure to noise, vibration, dust etc.
Projects such as roads, power transmission lines or landmine clearance have very specific impacts but are expected to be exceptional projects.

Annex B lists in detail the ranges of potential adverse E&S impacts that can be expected per topic, project stage and types of projects.

3  ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT PROCESS

3.1  OVERVIEW

A key principle of the E&S risk management process is incorporating E&S concerns as an intrinsic part of project cycle management. Each step of the project life-cycle provides opportunities to address E&S requirements to achieve good E&S performance in the projects. Figure 3-1 below summarizes the E&S risk management process implemented by PATRIP Foundation. The process is further described in the subsequent sections.
3.2 **Step 1: Implementing Partner Selection**

Suitable NGOs (i.e. the potential Implementing Partners for projects to be funded) are being selected by PATRIP using an existing internal NGO Assessment Tool. In addition to the review of legal setup, management structure, size and financial accountability, the historic E&S performance of the NGO should be added to the selection criteria. This can be done through a
so-called External Factors Review (i.e., high-level internet search). If the NGO is found to have a historic track-record of poor E&S Performance, a cooperation should be avoided or specific measures should be implemented, such as intensive monitoring of the partner or targeted E&S capacity building via the PATRIP Consultant.

3.3 **STEP 2: E&S SCREENING AND PROJECT CATEGORISATION**

At the submission of the concept note or simplified project proposal, PATRIP should check that the project does not include criteria that would place it on the PATRIP Foundation Exclusion List.

As part of the application process, all prospective projects have to undergo an initial E&S screening process to determine the project category. Annex C provides a categorisation checklist for the high-level identification of relevant E&S risks and gives guidance on the project categorisation. The checklist should be completed by the applying Implementing Partner and submitted together with the concept note and will be reviewed by the PATRIP Consultant. The outcomes of risk categorisation process determines the kind and depth of further E&S assessment and management and shall be documented for all project categories (i.e. whether Category A, B+, B or C determined). Since Project information useful for the categorisation may not always be available at the submission of the concept note or simplified project proposal, the applicant should refine the categorization at the submission of the detailed project proposal before PATRIP can give its final validation on conformity with E&S requirements.

The initial screening process classifies projects according to their potential environmental and social adverse impacts in either Category A, Category B+, Category B or Category C, per the following definitions:

- **Category C projects**: No adverse risks or impacts on human populations and/or the environment. This category involves only soft skill interventions, such as capacity building and training projects. These projects do not require any particular E&S management but should aim to include relevant ESHS requirements in the training and capacity building programs, for example on the safe handling of certain equipment or machinery.

- **Category B projects**: Low to moderate potential adverse risks and impacts upon the environment and on the social conditions of those concerned, although to a lesser extent than those of category B+ or A projects and can usually be mitigated through standard, best available mitigation approaches (cf. Annex 1). Typically, the potential impacts
and risks of category B projects are limited to a local area, are in most cases reversible and are easier to mitigate through appropriate measures. Based on a simplified assessment, relevant mitigation measures need to be integrated into the project according to a generic ESMP that gets adapted to the respective type of project and project-specific risks and impacts.

Category B is also further differentiated between projects that involve small works (Lower Risk Projects) and such projects with larger construction works (Moderate Risk Projects):

- **Small works** may result in minor E&S risks and impacts which can be managed with simple good housekeeping and OHS measures. Small works usually encompass projects that are of small financial value, short duration and mainly involve repetitive labour for simple maintenance and rehabilitation activities. Project examples include cash-for-work activities, such as street sweeping and cleaning of public spaces, domestic waste collection, drainage clearance along roads and of irrigation channels, renovation and repair of ground-floor buildings etc. Projects involving only small works should be managed by applying the E&S Checklist and relevant ESHS mitigation measures selected from the Generic ESMP.

- **Larger construction works** involves construction activities with substantial material input, use of heavy machinery and more complex labour. Potential E&S risks are usually temporary in nature, reversible, site-specific and manageable with standard solutions and state of the art technology. Project examples include the construction and rehabilitation of basic infrastructure, gravel roads and bridges as well as transmission lines (110 kV maximum) in existing corridors, water supply and sanitation or the small-scale extension, upgrade and rehabilitation of irrigation structures and agricultural areas. Projects involving larger works should be managed by applying the E&S Checklist and the Generic ESMP.

- **Category B+ projects**: Projects with single significantly adverse environmental and social impacts and risks, an E&S Assessment according to Annex E or a focused ESIA, if required by national legislation. Based on the assessment, these projects require at least an specific ESMP as well as other specific management plans, such as an LACP adapted to these impacts and risks. The need for and the scope, the priorities and depth of an ESA/focused ESIA and the ESMP/LACP
are determined through a case by case evaluation. For these projects the involvement of the KCUS is obligatory if funded via KfW.

- **Category A projects** by definition have diverse significant adverse risks and impacts on human populations and/or the environment and can’t be managed through standard solutions and state of the art technology.

In the PATRIP Foundation portfolio, it is expected that the vast majority of the projects will be Category B projects, whereas Category B+ projects will be conducted on exceptional basis. Category A projects are excluded.

Table 3-1 below gives examples of the expected E&S categorisation for the project portfolio of PATRIP Foundation depending on the project type. However, each project has its own unique E&S characteristics, often depending on the location of the project, and as such the below table can only provide general guidance and is provided as illustrative examples only. Projects have to be categorised according to the E&S risks as identified using the Categorisation Checklist (Annex C).
<table>
<thead>
<tr>
<th>Project type</th>
<th>Category C</th>
<th>Category B</th>
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<tr>
<td></td>
<td>No Risk</td>
<td>Low to Medium Risk</td>
<td>Substantial Risk</td>
<td>High Risk</td>
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<td>Basic Infrastructure</td>
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<tr>
<td>Building</td>
<td>Soft skill interventions, such as capacity building / training projects</td>
<td>Rehabilitation or construction of buildings for which no specific impacts are expected - such as classrooms, rural health centers (without medical waste incineration), community centers, sport fields, markets. Other examples include small-scale modifications of already existing projects, such as repair and renovation of buildings</td>
<td>Project involving land acquisition or loss of livelihoods. Project requiring workers accommodation as permanent building or as temporary camp for at least 100 workers</td>
<td>Project involving involuntary resettlement. Project involving land use change on more than 15 ha. Project to be located on land under dispute</td>
</tr>
<tr>
<td>Transportation Infrastructure</td>
<td>Soft skill interventions, such as capacity building / training projects</td>
<td>Non-asphalted local roads rehabilitation/upgrade (e.g. rural/secondary/access roads, existing roads repair/ rehabilitation)</td>
<td>Project involving land acquisition or loss of livelihoods. Project requiring operation of quarries. Project requiring workers accommodation as permanent building or as temporary camp for at least 100 workers Impacts on areas of high ecological value. Bridge construction of at least 10 m over a permanent water course. New asphalt roads longer than 2 km or rural roads longer than 10 km.</td>
<td>Project involving involuntary resettlement or impacting protected areas. Project to be located on land under dispute</td>
</tr>
<tr>
<td>Project type</td>
<td>Category C</td>
<td>Category B</td>
<td>Category B+</td>
<td>Category A</td>
</tr>
<tr>
<td>------------------------------------</td>
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</tr>
<tr>
<td></td>
<td>No Risk</td>
<td>Low to Medium Risk</td>
<td>Substantial Risk</td>
<td>High Risk</td>
</tr>
<tr>
<td>Power Transmission and Distribution</td>
<td>Soft skill interventions, such as capacity building / training projects</td>
<td>Rehabilitation project without change in land use.</td>
<td>Project involving land acquisition or loss of livelihoods.</td>
<td>Project involving involuntary resettlement or impacting protected areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Construction project, with capacity not exceeding 110 kV.</td>
<td>Construction project, with capacity above 110 kV.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project requiring workers accommodation as permanent building or as temporary camp for at least 100 workers.</td>
<td>Project to be located on land under dispute</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Impacts on areas of high ecological value by accessing or placing poles, cables, towers, transformers, substations or other installations.</td>
<td></td>
</tr>
<tr>
<td>Water Supply and Sanitation Schemes</td>
<td>Soft skill interventions, such as capacity building / training projects</td>
<td>Construction, expansion or rehabilitation of simple, small-scale water distribution and sanitation infrastructure within existing systems and without the utilization of new and additional water sources that requires no pumping and/or direct water extraction from a source of more than 60,000 litres per day (e.g. small pipeline networks, gravity-fed systems, surface water supply, small installations such as ponds and check dams to store and hold water).</td>
<td>Project involving involuntary land acquisition or loss of livelihoods.</td>
<td>Project involving involuntary physical resettlement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drainage works at village/ community level (e.g. small canals, ditches, pipelines)</td>
<td>Construction, expansion or rehabilitation of large-scale urban water and sanitation projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Construction, expansion or rehabilitation of small ponds/ check dams/trenches earthworks below 5m height (e.g. for rainwater retention)</td>
<td>Construction, expansion or rehabilitation of dams taller than 5 meters high</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project that would acquire land based on voluntary donations</td>
<td>Project sites where disputes over land and water ownership and use rights are present</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project potentially creating adverse impacts on down-stream users, e.g. through increased water intake</td>
<td>Project located in natural habitats or Protected Areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project requiring digging of groundwater wells, usage of aquifers, dredging or sludge removal</td>
<td>Project that would impact directly on international/transboundary waterways;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project that would significantly alter the water balance (flows, fluxes, stocks and recharge capacities) as well as the environmental flow at the local to regional level</td>
<td>Project that would impact on cultural property such as World Cultural Heritage sites, archaeological and/or historical sites, including religious monuments and/or cemeteries</td>
</tr>
<tr>
<td>Project type</td>
<td>Category C</td>
<td>Category B Low to Medium Risk</td>
<td>Category B+ Substantial Risk</td>
<td>Category A High Risk</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>Landmine Clearance</td>
<td>Soft skill interventions, such as capacity building / training projects</td>
<td>Rehabilitation of simple, small-scale and traditionally farmer led irrigation schemes primarily utilizing surface water, shallow wells or springs for irrigation, where the total rehabilitated area is up to 50 ha cumulated.</td>
<td>Construction of simple, small-scale and traditionally farmer led irrigation schemes primarily utilizing surface water, shallow wells or springs for irrigation, where the total new developing area is up to 15 ha cumulated or a rehabilitation of more than 50 ha cumulated.</td>
<td>All projects (see note below)</td>
</tr>
<tr>
<td>Irrigation and Agriculture</td>
<td>Soft skill interventions, such as capacity building / training projects (e.g., on the promotion of organic farming and the avoidance of pesticides)</td>
<td>Project chiefly designed to serve subsistence agriculture</td>
<td>Project involving involuntary land acquisition or loss of livelihoods.</td>
<td>Project involving involuntary physical resettlement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project that would acquire land based on voluntary donations</td>
<td>Project potentially creating adverse impacts on down-stream users, e.g., through increased water intake</td>
<td>Construction, expansion or rehabilitation of large-scale irrigation schemes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project requiring digging of groundwater wells, usage of aquifers, dredging or sludge removal</td>
<td>Construction, expansion or rehabilitation of dams taller than 5 meters high</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project that would significantly alter the water balance (flows, fluxes, stocks and recharge capacities) as well as the environmental flow at the local to regional level</td>
<td>Project sites where disputes over land and water ownership and use rights are present</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Projects that would increase the use of pesticides and thus require pesticide management (Only use those pesticides which are allowed by the WHO with their restriction and as per the integrated pest management plan.)</td>
<td>Project located in natural habitats or Protected Areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Project that would impact directly on international/transboundary waterways;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Project that would impact on cultural property such as World Cultural Heritage sites, archaeological and/or historical sites, including religious monuments and/or cemeteries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Conversion of pastures or grazing land to agriculture activities.</td>
</tr>
<tr>
<td>Project type</td>
<td>Category C</td>
<td>Category B</td>
<td>Category B+</td>
<td>Category A</td>
</tr>
<tr>
<td>--------------</td>
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<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>No Risk</td>
<td>Low to Medium Risk</td>
<td>Substantial Risk</td>
<td>High Risk</td>
</tr>
<tr>
<td>Social Cohesion</td>
<td>Soft skill interventions, such as capacity building / training projects, conflict resolution, and strengthening of local governance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Landmines clearance projects are a temporary measure that present a very high risk mainly for workers involved, but with an overall very positive impact on long-term land use and accident risks for local population. They are per internal KfW Categorisation Checklist classified as Category A but for the context of PATRIP Foundation they shall be dealt with as if they were Category B+ and therefore requiring a review and no-objection of KfW in order to ensure that they undergo standard mitigation measures, i.e. be implemented by qualified service providers who use state of the art methods and equipment.

3.4 **STEP 3: E&S RISK MANAGEMENT**

3.4.1 *Category C Projects*

Since Category C projects involve only soft skill interventions, such as training and capacity building activities, they do not require a specific E&S assessment. However, the Implementing Partners should aim to include relevant ESHS requirements in the training and capacity building programs, for example on the safe handling of certain equipment or machinery. For more general information see also World Bank Environmental and Social Standards Nr. 1 and 2. Should the Implementing Partner consider that the ESHS components do not adequately cover all risks, he is free to add additional measures. Should any mitigation measures be considered as not applicable or not relevant for a given project, the Implementing Partner should communicate the reasons, agree with PATRIP and document in writing their non-application.

As a minimum the stakeholder documentation (Annexe D Appendix 1) including grievance mechanism (Annex G) should be implemented.

3.4.2 *Category B Projects*

After a simplified assessment of the project, using the Environmental and Social Checklist – Part II, the generic ESMP (see section 3.5.2) shall be applied. The generic ESMP represents good environmental, social, community safety, occupational health and safety practices aiming to minimize typical negative impacts occurring in projects with low to moderate E&S risks and impacts.

**Lower Risk Category B Projects** including very small civil works with minor risks, which are for example but not limited to:

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4 [Environmental and Social Standards (ESS) (worldbank.org)](https://www.worldbank.org)
- street sweeping and cleaning, cleaning of public spaces, waste collection,
- rehabilitation of classrooms and other public buildings (only ground floor buildings),
- rehabilitation of small rural roads, including breaking of rocks (without large machinery),
- cleaning and replacement of culverts, and drainage clearance along roads, rehabilitation of small irrigation channels,
- a small water sanitation and hygiene infrastructure (e.g. school sanitation, hand dug wells/small wells, improvement of springs),
- rehabilitation of other small infrastructure,
- rehabilitation, renovation or construction of buildings for which no specific impacts are expected, and
- simple soil erosion prevention structures (soil bunds).

Additional criteria to define Lower Risk Projects (compared to moderate risk projects) include, but are not limited to:

- no use of heavy machinery (except vehicles for transportation of workers and material)
- no demolition works are required, no dismantling of a structure or part of a load-bearing structure is required5
- no earthmoving works are required (except for small trenches as specified below)
- no scaffolding required (work at height limited to the use of ladders),
- no trenches deeper than 120 cm, or in unstable, loose, soft or wet soil types6,
- no work in confined spaces,
- no roofing works or rehabilitation of roof protection required,
- no prolonged use of vibratory power tools required,
- no lifting equipment for material handling, such as cranes, required no work with hazardous substances in significant7 quantities,

5 Demolition or dismantling of a load-bearing structure/element is considered “high-risk construction work”
6 In general, trenches that are deeper than 120 cm require a protective system (sloping, shoring or temporary protective structure), unless excavation is made in stable rock.
7 Significant quantities: more than what a private person can buy without special authorisation
• not more than fifty (50) workers mobilized for individual intervention,
• no on-site material manufacturing, such as production of brick or concrete blocks, manufacturing of windows and doors, and production of gravel and stones, is required.

**Moderate Risk Category B Projects** examples on the other hand include the construction and rehabilitation of basic infrastructure, gravel roads and bridges as well as transmission lines (110 kV maximum) in existing corridors, water supply and sanitation or the small scale extension, upgrade and rehabilitation of irrigation structures and agricultural areas.

The generic ESMP applies to Category B Projects for which potential environmental and social impacts of interventions and activities are expected to be limited and site-specific, reversible and mitigatable with standard measures. Typical impacts would comprise for example construction waste, dust and noise generation, community safety and occupational health & safety issues.

Whether it is Category B Project with low or moderate E&S risks and impacts, in both cases the **generic ESMP needs to be adapted** to the respective project. Depending on the planned project activities and criteria listed above, it is required to either a E&S Screening and Project Categorisation and based on this assessment determine the respective ESMP measures.

In case of Low Risk Category B Projects, the ESMP will be much less comprehensive since it only needs to address minor E&S risks and impacts which can be managed with simple good housekeeping and ESHS mitigation measures selected from the Generic ESMP.

This generic ESMP is conceptualized as a template and a living document that needs to be reviewed and can be complemented by additional measures as appropriate in order to address site-specific conditions of a given Project, prior to its application.

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8 For 50 workers and above a dedicated environmental safety and hygiene officer is frequently required on construction sites by national legislations
3.4.3 *Category B+ Projects*

Category B+ Projects include activities with single significantly adverse environmental and social impacts and risks. Given that projects are implemented in emergency situations under severe time and budget constraint, E&S risks for a Category B+ projects should undergo an E&S Assessment or a focused ESIA rather than a full ESIA which is usually required.

For Category B+ projects the appropriate scope of future E&S assessment is determined using the E&S Categorisation Checklist provided in Annex C. The checklist will be completed by the Implementing Partner during the project application process to identify and assess the project’s E&S consequences and risks more accurately (“Scoping”). The Categorisation Checklist will also identify the E&S impacts that will need to be further assessed before the implementation of the project as described below.

For Category B+ projects that require an engineering design and/or feasibility studies, the E&S Assessment should be preferably conducted as a part of those studies in parallel with them.

Similar to the screening and categorization also Step 3 requires the involvement of the KCUS in case of funding via KfW.

The purpose of the E&S Assessment is to identify the possible negative E&S impacts of the project that are most important for design, decision-making and stakeholder interest and to propose appropriate mitigation measures. It can also highlight positive impacts created by the project. The outcome of the E&S Assessment can be modifications in the project design, such as change in project routing/siting to avoid risks/impacts. In any case, a site-specific E&S Assessment needs to produce a project-specific ESMP or add mitigation measures to the generic ESMP as required, that will be used to manage, monitor and respond to E&S impacts.

An example of structure of a site-specific E&S Assessment is described in Annex E. The content of the E&S Assessment is, however, to focus only on the categorisation criteria that trigger the B categorisation of the project and the request of an E&S Assessment.

A Stakeholder Engagement Plan (Annex D Appendix 1) to document all consultations with beneficiaries and other stakeholders as well as the elaboration of Workers Code of Conduct (Annexe D Appendix 2) attached to generic ESMP are necessary for Category B.
Projects consisting in the construction of health centres or hospital dealing with medical waste need to implement a Medical Waste Management Plan as per Annexe D Appendix 3.

PATRIP projects are not anticipated to result in promoting widespread pesticide use. However, projects that include the rehabilitation of irrigation systems and agriculture lands and might have an adverse impact on protected plant species or may result in the limited introduction/intensification of pesticide use will require an Integrated Pest Management Plan (IPMP) as per Annexe D Appendix 4 if deemed necessary during the screening stage.

For all projects that require land which is not voluntary donated a LACP should be developed, as provided in the Annex H.

It is the responsibility of the Implementing Partner to complete the site-specific E&S Assessment within a scope agreed with PATRIP and to submit the document to the PATRIP Foundation Consultant. The Implementing Partner shall mobilise adequately qualified E&S personal (either in-house or externally recruited) to elaborate the E&S Assessment. The E&S specialist of the PATRIP Consultant (see section 5.1) shall review and validate the scope and results of the E&S Assessment. Exceptions to the E&S Assessment process can be:

- If local legislation requires a full ESIA, the Implementing Partner has to comply with this obligation and undergo the national ESIA process.
- If the proposed project is part of a local/regional development plan or a wider program for which an ESIA is available, the E&S Assessment obligation can be waived if the available ESIA appropriately addresses the identified risks.
- If the E&S Assessment requirement is lifted after consultation with KfW’s KCUS for appropriate reasons.

3.4.4 Category A Projects

Category A projects are excluded and will not be financed for the reasons mentioned above. It is not acceptable that a rejected Category A will be split into several smaller projects to meet categorisation requirements.

3.5 Step 4: E&S Monitoring and Reporting

PATRIP Foundation has to ensure that the E&S aspects of the projects are monitored. The monitoring should be undertaken within a two-tiered approach:
• Monitoring by the Implementing Partner;
• Monitoring by PATRIP Foundation (through its Consultant).

3.5.1 Monitoring by the Implementing Partner

The Implementing Partner is responsible for the day-to-day monitoring of the implementation of the E&S requirements in the projects. It is the Implementing Partner’s responsibility to agree with its contractors on how the monitoring will be conducted.

In any case the following requirements shall be mandatory for the Implementing Partner:

• The contractor shall immediately report on arising emergency situations to the Implementing Partner. The Implementing Partner is required to document those issues and report them to the PATRIP Foundation with no delay. Emergency situations can include, but are not limited to:
  - fatality or severe accident at construction site or in community directly related to construction activities (such as traffic accident); (see incident reporting template in Annex F);
  - unforeseen externally triggered situation that needs or is likely to need an interruption or postponement of works (security concerns in the area, natural disaster, social/community unrest);
  - unacceptable working conditions such as child labour or forced labour issues;
  - non-compliance with national requirements, such as loss of construction permit or any other necessary authorisation provided by local authorities or legal claims (or threat of) formulated against the project;
  - unforeseen project complication such as land / livelihood issues (unexpected need of resettlement) or significant environmental contamination;
  - any grievances issued by workers, project affected people or other stakeholders that need a rapid redress, or
  - any other issue that is likely to severely put at stake the project success or the reputation of PATRIP Foundation.

An Implementing Partner failing to provide best efforts to fulfil this reporting requirement may be considered as breaching their contract, which may eventually lead to cancelation of the funding or exclusion for future funding.
• The Implementing Partner should provide information on the progress on the ESMP implementation as part of the reporting documents to PATRIP Foundation. In case there is no permanent presence of the Implementing Partner on site, it is required that the Implementing Partner visits the project site on his own as often as reasonable considering the type of project and E&S risks. The Implementing Partner should generally provide his best efforts to be kept informed on the situation, possibly by triangulating the information from the contractors via engagement with community and/or community representatives.

• Other issues to be reported in progress and completion reports are those that do not need immediate action by PATRIP Foundation. These may include:
  - minor accidents and response implemented to address the risk;
  - minor deviations in ESMP, including non-relevance of ESMP requirements;
  - project deviations that do not trigger E&S risk or social acceptance of the project; and
  - good practices and lessons learned on environmental, social and health safety topics, so that they can be discussed during the annual PATRIP Foundation Forum and implemented whenever relevant in other projects.

3.5.2 Monitoring by PATRIP Foundation

PATRIP Foundation may monitor ESMS implementation by receiving and aggregating reports provided by the Implementing Partner (indirect monitoring) and by performing monitoring visits on its own, and if possible not announced (at least from time to time). It is not expected that monitoring visits are restricted to E&S topics, but E&S should be a standard topic within the monitoring programme.

PATRIP Foundation should provide key data on E&S performance of its portfolio projects in its annual reporting. This may include, but not be limited to:

• Number of projects implemented by E&S risk category;
• Occupational health & safety records (fatal accidents, non-fatal accidents, incidents); and
• Lessons learned (positive and/or negative), changes in the approach on E&S perspective.
• Upon request PATRIP Foundation will submit examples of implemented E&S management plans to the KCUS.

3.5.3 Documentation

Figure 3-2 below shows the main stages of the projects and how E&S topics are addressed throughout the project life-cycle.

Figure 3-2  Overview of E&S Documentation throughout the Project Life-Cycle

4  MITIGATION MEASURES

This section outlines the key elements of the Environmental and Social Management Plan (ESMP) capturing the typical E&S impacts and associated mitigation measures that need to be considered throughout the project life cycle.

The intention of this section is to assist the Implementing Partners responsible for a specific project in avoiding/mitigating negative E&S impacts during the planning and implementation phases of the project. The contractual documentation between the Implementing Partner and its contractors and/or consultants should incentivise the contractor to implement the ESMP during the construction planning, preparation and construction phases. The Implementing Partner will oversee and monitor the ESMP implementation and will have ultimate responsibility for it.
To efficiently manage E&S risks arising from project implementation, the overall approach should be elaborated per the risk management hierarchy, which foresees priority of impact avoidance above mitigation and remediation, as shown in Figure 3-3 below:

![Impact Management Hierarchy](image)

**Figure 3-3 Impact Management Hierarchy**

<table>
<thead>
<tr>
<th>Priority</th>
<th>Examples of measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid</td>
<td>Alternative siting/routing</td>
</tr>
<tr>
<td>Mitigate at Source</td>
<td>Minimize footprint, introduce pollution control</td>
</tr>
<tr>
<td>Mitigate at Receptor</td>
<td>Prevent access to sites, provide personal protective equipment</td>
</tr>
<tr>
<td>Repair or remedy</td>
<td>Land restoration after works, trees plantation.</td>
</tr>
<tr>
<td>Compensate</td>
<td>Provide financial compensation</td>
</tr>
</tbody>
</table>

### 4.1 **Generic Mitigation Measures (Generic ESMP)**

This sub-section describes the minimum mitigation measures that need to be implemented in all projects funded by PATRIP Foundation, apart from Category C Projects where no physical work is involved. It is complemented by the Annex D, which proposes a full generic ESMPs broken down by project stages and types for Category B+ Projects.

This section does not comprehensively describe all mitigation measures set up in the ESMP but highlights the most relevant and specific measures.

#### 4.1.1 **UXO/EWR Clearance**

Reconstruction and rehabilitation projects may present the risks of explosive war remnants (EWR) concealed in and under rubble (both unexploded ordnance - UXO, and deliberately planted explosives). Any repairs or reconstruction financed by PATRIP will only apply to those areas that have been declared safe of EWRs.

Confirmation that sub-project locations have been cleared of EWR, IEDs and UXOs will be sought from the relevant authorities and stakeholders. No
project activities will be undertaken without this assurance. The declaration of absence of ERW will be a criterion to allow any PATRIP-financed works to proceed.

The Implementing Partner must fill a dedicated form that is part of the E&S Categorisation Checklist (see Annex C) to declare that the area is free of EWR. In case of doubt, a clearance measure is to be conducted before any works of preparation of those can start.

4.1.2 Stakeholder Engagement

Principles

Stakeholder engagement is an ongoing process that may involve stakeholder analysis and planning, disclosure and dissemination of information, consultation and participation, grievance mechanism, and ongoing reporting to affected communities. The purpose of stakeholder consultation is to:

- **Inform**: by promoting stakeholder understanding of issues, problems, alternatives, opportunities and solutions through balanced and objective information sharing;

- **Consult**: by obtaining feedback and acknowledging concerns and aspirations of stakeholders on analysis, alternatives, and decisions with regard to development projects;

- **Engage**: by working directly with stakeholders to ensure that their concerns and aspirations are understood and considered and to assure them that their concerns / aspirations would be directly reflected in the developed alternatives; and that feedback will be provided on how their input influenced the final decisions;

- **Empower**: by making stakeholders partners in each aspect of the decisions, including development of alternatives and identification of preferred solutions.

Implementation

Project stakeholders need to be exhaustively identified (stakeholder mapping) by the Implementing Partner at the very early stages of the project. Stakeholders are all persons or organisations that have an interest and/or may be affected (positively/negatively) by the project. This may include:

- Persons living around a site (villagers, community members);
• Local authorities involved in the development planning, having an interest in the project (medical /education authority) or delivering construction/operation authorisations and permits;
• Traditional/informal authorities;
• Parties involved in the project implementation (consultants, contractors, workers, employees);
• Vulnerable minorities/indigenous people as per IFC definition9 that may be present in the project area and affected by the project.

The Implementing Partner needs to engage with the persons living in the area around the project site (including neighbours, local decision makers or community-based organisations) early in the planning process and throughout implementation / construction activities to inform them about the planned construction and also seek for their feedback around potential sensitivities.

Stakeholder engagement needs to be documented by the Implementing Partners in the form of minutes of meetings, as far as possible backed up by attendance lists. See Appendix 1 of Annex D for stakeholder engagement documentation.

Site visits and discussions with the local population should be conducted throughout the design and planning phase. Ideally, the local community (inhabitants and/or local authorities) shall initiate the project and cooperate with the Implementing Partner to have it implemented. This would ensure social acceptance, ownership and increase the chances of success of the project. It is important not to raise unrealistic expectations among the population: clarity should be made on critical topics that can influence social acceptance of a project, such as employment/business opportunities or costs of use of provided infrastructure.

A Grievance Mechanism shall be available for workers and the public during the planning phase already – see next section.

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9 Indigenous People can be present in the current work area of PATRIP Foundation projects, e.g.: Baluchis and Hazara in Afghanistan, Aimaqs inn Afghanistan, Pakistan and Iran, Parimiris in Afghanistan and Tajikistan or Burusho and Dard in Pakistan.
**Grievance Mechanism**

The purpose of the Grievance Mechanism is to implement a formalised process (identification, tracking and redress) to manage project-related complaints from communities, workers and other stakeholders. A Grievance Mechanism needs to ensure that all stakeholder comments, suggestions and objections are captured and considered.

A grievance is defined as an issue, concern, problem or claim (perceived or actual) that an individual or community group wants the implementing partner, PATRIP Foundation or contractor to address and resolve, e.g.

- Specific complaint about impacts, damages or harm caused by the project;
- Concerns about project activities during construction or operation, or perceived incidents or impacts.

The Grievance Mechanism should also consider positive feedback and suggestions. The Grievance Mechanism is required to be:

- **Systematic**: all forms of complaints related to the project need to be considered;
- **Transparent**: stakeholders must be informed that a grievance mechanism is in place, grievances must be documented and registered;
- **Appropriate**: tailored to the project scope, adapted to local conditions and culturally acceptable; and
- **Lead to corrective actions**: grievances must be answered as relevant and the answers must be documented. Timely resolution of grievances is vital to ensure successful implementation of the project.

The Grievance Mechanism may be implemented at two levels:

- The Implementing Partner is required to implement its own formal grievance mechanism, which register that can be accessed at any moment by PATRIP Foundation.
- PATRIP Foundation (via its consultant) should also maintain a consolidated grievance mechanism.

The Implementing Partner is responsible to implement a grievance mechanism that addresses the requirements described. It is possible that an Implementing Partner might already implement their own strategies to ensure that the requirements of a grievance mechanism are met.
The Implementing Partner needs to appoint one person as grievance mechanism manager (usually the implementation supervisor) who will inform colleagues and contractors about grievance mechanism procedures, gather grievance forms, report them to the grievance register and provide input to the project reporting to PATRIP Foundation. The stakeholders must be informed on the existence of such grievance mechanism and the Implementing Partner must ensure that the process is considered by stakeholders to be culturally appropriate, trustworthy and effective. An example of grievance form is provided in Annex G to this ESMS.

Grievances might be formulated in an informal way (not necessarily written complaint) during a conversation, therefore Implementing Partner employees need to be sensitized on this system. All grievances must be documented by the Implementing Partner employees and sent to the grievance mechanism manager and consigned in a grievance register (paper or electronic).

The grievance register should at least include following categories:

- Name and contact details of contact (unless requested to remain anonymous)
- Date and description of grievance
- Response made to the grievance / corrective action implemented

Similarly, the PATRIP Foundation Consultant needs to document in written any grievances formulated directly to him by stakeholders during monitoring visits and to compile them into a dedicated register for the project. In addition, the PATRIP Foundation Consultant should consult grievance registers of the Implementing Partners as source of information and verify that grievances have been appropriately considered and responded.

Grievances and concerns that need a dedicated response, possibly including modification in project implementation, should be reported by the PATRIP Foundation Consultant in his monitoring reports.

4.1.3 Labour Conditions

All projects must achieve compliance with international labour standards. Therefore, following minimum standards have to be observed in projects funded by PATRIP Foundation:

- Children below 15 years cannot be employed if the work prevents them to fully attend to school. Cumulated school and work time including transportation should not exceed 10 hours a day.
• Young workers below 18 years cannot perform work at night and tasks that are likely to jeopardise their health, safety or morals.

• All work shall be remunerated under the principle "equal pay for equal work" under the applicable remuneration standards of the country.

• Employment relationships shall be based on principles of equal opportunity, fair treatment, and non-discrimination (e.g. due to gender, age or origin).

• Generally, contribution from community in the form labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods.

• Forced labour, including prison work, is not tolerable.

• All workers must have access to a grievance mechanism, which guarantees anonymity (see previous section).

• Workers must be provided with acceptable housing conditions ensuring the provision of adequate space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, security and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting.

• The workers must have access to a free of charge emergency medical service. As a minimum, the construction sites must have first aid kits available and provide information on nearest medical facilities including emergency contact and mean of transportation.

In projects where Implementing Partner self-implement, a recruitment procedure for the construction phase should be followed, including at least an estimate of number and qualification of workforce required and the conditions for recruiting (priority on local recruitment, no discrimination principles). Implementing Partners should give priority on local communities to provide unskilled workers and skilled workers, if available, to encourage social growth and development in the project area. Recruiting policies and procedure must be clear to prevent claim and conflicts.

4.1.4 Occupational Health & Safety

The contractor is responsible for providing training to all workers on site regarding OHS related issues, so that workers can understand work hazards and protect themselves and others. The training shall be tailored to the risks and be provided at a minimum before the workers starts his work and when new risks are identified. The training should address the main risks on
workers’ health and safety related to work place (hazardous substance management, work at height, electric, traffic safety), the safe work practices, the emergency procedures and the requirement of incident reporting. As a good practice, OHS training shall be documented (signed attendance lists bearing as a minimum date and training topic) and available for inspection by labour authorities, Implementing Partner or PATRIP Foundation if requested.

Should the contractor have no capacities to provide this training, the Implementing Partner shall find an alternative solution to ensure the workers are appropriately trained. On exceptional cases, PATRIP Foundation, should organize OHS trainings for Implementing Partners with limited capacities, possibly at Annual PATRIP Foundation Meeting and via the E&S expert of the PATRIP Consultant on a train the trainer approach.

The Implementing Partner should establish working incident reporting procedures (fatal accidents, medical treatment cases; first aid cases; restricted work injuries; near misses; environmental events; security and safety events) – see also section 3.5.1 and Annex F. The idea behind incident reporting is to communicate the H&S event to achieve a continuous improvement in the H&S practices and reduce the risk of incidents across PATRIP Foundation projects.

The contractor is responsible for providing personal protective equipment tailored to the occupational hazards: safety shoes, helmets, gloves, safety glasses, hearing protection, harnesses etc. Exposition to severe worker’s risks must lead to immediate work interruption by the Implementing Partner until the exposition to hazard is brought to a reasonable level.

In cases of security concerns (such as social unrest, armed conflicts, or terrorist threats) the contractor must evacuate the workers out of the zone of danger. This implies that the contractor (and the Implementing Partner employing the contractor) should monitor the security warnings and adapt a proactive attitude toward security situations.

4.1.5 Project Design and Siting

Many impacts can be avoided if a project is planned, designed carefully, and consider E&S aspects from its conception. The following points should form part of basic considerations:

- Plan projects carefully in order to avoid:
  - Economic resettlement of persons (direct take or access restriction to land and resources used for livelihood) including grazing areas, plantations, water ponds and courses etc.,
- Forests, protected areas or ecologically sensitive areas,
- Locations prone to natural disasters (landslides, flooding, avalanches),
- Slope areas, which can cause erosion and damage ecosystems,
- Socially, culturally or historically sensitive areas (e.g. places of worship).

- Give priority to use of local resources / materials to avoid construction traffic and associated impacts to the communities.
- Optimize use of natural resources (material, water, land) as much as possible.

The projects have to be designed in a way that physical and economic displacement is avoided. Should, however, unexpected issues related to resettlement arise during project implementation, the impacts have to be managed by using a livelihood compensation and resettlement framework, which is presented in Annex H.

NB: Project Design and Siting mitigations are not relevant for landmine clearance activities.

4.2 **SECTOR SPECIFIC MITIGATION MEASURES**

**Category B+** Projects need to elaborate a project-specific ESMP that considers the specificities of the project E&S context as well as the identified impacts and risks. ESMP may include generic mitigation measures but also the outcome of the site-specific E&S Assessment. Specific ESMPs for each of the six main project sectors (see Section 3.1.3) are included under Annex D.

These ESMPs include the mitigation measures introduced in the previous section but also other generic mitigation measures introduced by project type. The ESMPs are based on IFC Performance Standards topics, showing the temporary relevance of the measure (planning, implementation or operation), specifying recommendations for possible implementations and proposing means and responsibilities for monitoring purposes.

Although they include most relevant mitigation measure, generic ESMPs should be understood as examples and be adapted to the reality of the projects. They are not intended to be considered as a fully ready-to-use tool.

The structure and elements of the specific ESMP should be similar to the generic ESMP. The Table 3-2 below summarises the key mitigation measures per projects type and per project phase.
<table>
<thead>
<tr>
<th>Project Type</th>
<th>Preparation (conception, planning)</th>
<th>Implementation / Construction</th>
<th>Operation</th>
</tr>
</thead>
</table>
| Basic Infrastructure         | • Project design<br>  - Maintenance arrangements                                                   | • Community health & safety:  
  - Site access restriction                                                                        | • Waste management programmes                  |
| Transportation Infrastructure | • Project design<br>  - Best practices  
  - Associated facilities  
  - Project sitting incl. Land and livelihoods, natural habitats and cultural heritage    | • Community health & safety  
  - Site access restriction  
  - Traffic safety  
  - Construction Best Practices (soil, water, natural habitats, noise, emissions)  
  - Accidental resettlement                                                              | • Community Health & Safety: traffic safety measures |
| Power Transmission           | • Project design<br>  - Associated facilities  
  - “Bird friendly design”  
  - Project sitting                                                              | • Community health & safety  
  - Site access restriction  
  - Construction best practices (soil, water, natural habitats, noise, emissions)  
  - Provision to address “accidental” resettlement                                          | • Workers health & safety (maintenance)  
  - Community Health & Safety: protection against electrocution                               |
| Water and Sanitation         | • Project design<br>  - Maintenance arrangements  
  - Project sitting                                                             | • Construction best practices (soil, water, natural habitats, noise, emissions)  
  - Community health & safety  
  - Site access restriction                                                             | • Community Health & Safety: maintenance arrangements                                         |
| Landmines Clearance          | • Implementing Partner selection                                                                  | • Community health & safety  
  - Site access restriction  
  - Emergency preparedness                                                             | • N/A                                           |
<table>
<thead>
<tr>
<th>Irrigation and Agriculture</th>
<th>Project design</th>
<th>Construction best practices (soil, water, natural habitats, noise, emissions)</th>
<th>Organic Farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>• See Annex D6</td>
<td>• Best practices/water efficiency</td>
<td>• Community health &amp; safety</td>
<td>• IPM Application</td>
</tr>
<tr>
<td></td>
<td>• Associated facilities</td>
<td>• Site access restriction</td>
<td>• Soil and water conservation</td>
</tr>
<tr>
<td></td>
<td>• Project sitting incl. Grazing and pasture lands</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


5 ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM IMPLEMENTATION ARRANGEMENTS

This section outlines the responsibilities of each stakeholder in achieving the E&S performance goals as set by PATRIP Foundation.

5.1 PATRIP FOUNDATION

The responsibility of the PATRIP Foundation in the E&S management is to:

- Adapt the requirements of this ESMS in the light of the field experiences;
- Set the standards that the Implementing Partners must implement in the funded projects;
- Ensure the Implementing Partners can implement the requirements of the ESMS by:
  - Considering E&S capacities (willingness, technical capacities, previous experience) in the Implementing Partners selection;
  - Integrating E&S management clauses in the contractual documentation with Implementing Partners;
  - Integrating E&S in the project selection criteria;
  - Raising awareness of Implementing Partners on E&S topics by addressing these topics in the annual PATRIP Foundation and Implementing Partners Annual Meeting under the form of trainings based on real cases encountered in projects;
  - Integrating E&S criteria in the project monitoring process and providing ad-hoc support on the ground for Implementing Partners and their contractors.
- Ensure that E&S risks are correctly assessed by the Implementing Partners at the planning/proposal stage and that subsequent E&S management activities are implemented as per this ESMS; and
- Consolidate reporting on ESMS implementation (direct and from Implementing Partners) and report to its donors.

By implementing these measures, PATRIP Foundation should be able to provide evidence that best efforts are made to address E&S topics to the extent possible given the project/stakeholder setup, the nature of the projects and the context of the implementation.
The PATRIP Foundation Consultant, as PATRIP Foundation representative in the project implementation, is a key stakeholder to implement the ESMS requirements, particularly in the project implementation and monitoring activities. The PATRIP Consultant must at all times maintain adequate capacity to address project related E&S issues by including E&S staff in his team. The roles of PATRIP Consultant E&S staff should include, but not be limited to:

- Verify compliance of projects with national E&S legislation;
- Support Implementing Partners with regard to information on their obligations toward E&S legislation (including permitting, labour conditions, etc.);
- Review and approve E&S Assessments prepared by Implementing Partners;
- Strengthen the capacities of Implementing Partners regarding E&S Assessment conduction and mitigation measures implementation, including OHS trainings if requested;
- Monitor ESMP implementation during all stages of the projects;
- Perform E&S audits on construction sites depending on the risk;
- Collect project lessons learnt to adapt the PATRIP ESMS and improve its performance.

The PATRIP Foundation Consultant must have at any time the right and authority to stop a project or an activity within a project if the security of the workers, the beneficiaries or other stakeholder is at risk or if the reputational risk of PATRIP Foundation is at stake.

5.2 IMPLEMENTING PARTNERS

The Implementing Partners have the overall responsibility for E&S management during the implementation / construction phase of the project. This includes the following responsibilities:

- Ensure compliance with all relevant national legislation, as well as with the E&S controls and mitigation measures contained in the ESMP and associated documents.
- Ensure proper stakeholder engagement by:
  - Involving communities, authorities and other local stakeholders in the whole project life cycle, starting by project conception and planning;
- Acting as point of contact for consultation and feedback to communities and authorities.

- Ensure that the design and planning comply with national requirements and aligned with international best practise.

- Raise awareness of the contractors in the fields of E&S topics and in general implementation of this ESMP.

- Monitor the E&S performance of consultants, contractors and subcontractors used for providing workforce, supplies and services.

- Disclose the ESMP to the relevant local authorities as necessary.

- Report to PATRIP Foundation on topics including occupational health and safety incidents, accidents, or best practices.

For category C and B projects, it is not required that the Implementing Partner appoints a staff responsible for E&S topics. For Category B+ projects that are subject to an E&S Assessment, it is required that at least one staff on the side of the Implementing Partner is responsible to monitor the ESMS implementation.

In all cases however, the Implementing Partner should always involve at least one person for monitoring who is familiar with PATRIP Foundation’s ESMS requirements. This person should be responsible for reporting to PATRIP on E&S topics.

The Implementing Partner must have at any time the right and authority to stop a project or an activity within a project if the security of the workers, the beneficiaries or other stakeholder is at risk or if the reputational risk of PATRIP Foundation is at stake. In such cases PATRIP Foundation (possibly via its Consultant) must be informed within 24 hours and a detailed reason for the interruption provided.

5.3 CONTRACTORS

Consultants and contractors do not have direct contractual relationship with PATRIP Foundation, but with the Implementing Partners. The Implementing Partners should require in their contracts that contractors are obliged to fulfil the commitments as set out in this ESMS and to ensure that their subcontractors also fulfil the ESMP. This includes the following – to the extent possible:

- Verify implementation of the ESMP and report on findings to the Implementing Partner.
• Communicate any environmental issues and incidents to the Implementing Partner immediately.

• Raise awareness of their workers in the fields of E&S topics and in general implementation of this ESMP. This can include short trainings on health and safety awareness (e.g. drivers training) that needs to be documented by the Implementing Partner.

The contractors must have at any time the right and authority to stop a project or an activity within a project if the security of the workers, the beneficiaries or other stakeholder is at risk. In such cases the Implementing Partner must be informed with no delay and a detailed reason for the interruption provided. The Implementing Partner has to document the case and do his best efforts to solve the issue. Work stop cases must be documented by the Implementing Partner and reported to PATRIP Foundation.
ANNEXES

A: Applicable International Environmental and Social Standards
B: Potential Environmental and Social Impacts
C: Environmental and Social Categorisation Checklist
D: Environmental and Social Management Plans
   D-1 – Building/Construction Projects ESMP
   D-2 – Transportation Infrastructure Projects ESMP
   D-3 – Power Transmission Projects ESMP
   D-4 – Water and Sanitation Projects ESMP
   D-5 – Landmine Clearance Projects ESMP
   D-6 – Irrigation and Agriculture Projects ESMP
Appendix 1 – Generic Stakeholder Engagement Plan
Appendix 2 – (Example of a) Construction Contractor Code of Conduct
Appendix 3 – Medical Waste Management Plan Template
Appendix 4 – Integrated Pest Management Plan Template
E: E&S Assessment Guideline
F: Incident Reporting Template
G: Grievance Form Template
H: Land Acquisition Compensation Plan
   Appendix – Land Acquisition and Compensation Plan Template
I: Glossary of Terms
ANNEX A

Applicable International Environmental and Social Standards
Annex A – APPLICABLE INTERNATIONAL E&S STANDARDS

1

IFC PERFORMANCE STANDARDS (WORLD BANK GROUP)

IFC’s Performance Standards (2012) (link) define projects promoters’ responsibilities for managing their environmental and social risks.

Table 1-1  IFC Performance standards

<table>
<thead>
<tr>
<th>Performance Standard</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 1: Social and Environmental Impact Assessment</td>
<td>Requires the establishment of an environmental and social management system to help projects to anticipate environmental and social risks posed by their activities and avoid, minimize, and compensate for such impacts as necessary. A good management system provides for consultation with stakeholders and a means for complaints from workers and local communities to be addressed.</td>
</tr>
</tbody>
</table>
| PS 2: Labour and Working Conditions | Requires that companies treat their workers fairly, provide safe and healthy working conditions, avoid the use of child or forced labor, and identify risks in their primary supply chain. IFC Performance Standard 2 also requires consideration of International Labour Office Conventions, particularly the eight “fundamental” Conventions:  
  - ILO Convention 87 on Freedom of Association and Protection of the Right to Organize  
  - ILO Convention 98 on the Right to Organize and Collective Bargaining  
  - ILO Convention 29 on Forced Labour  
  - ILO Convention 105 on the Abolition of Forced Labour  
  - ILO Convention 138 on Minimum Age (of Employment)  
  - ILO Convention 182 on the Worst Forms of Child Labour  
  - ILO Convention 100 on Equal Remuneration  
  - ILO Convention 111 on Discrimination (Employment and Occupation) |
| PS 3: Pollution Prevention and Abatement (PPA) | Requires consideration of practices and technologies that promote energy efficiency, use resources — including energy and water — sustainably, and reduce greenhouse gas emissions. |
| PS 4: Community Safety, Health and Security | Requires adoption of responsible practices to reduce exposure of local communities to risks and adverse impacts related to worksite accidents, hazardous materials, spread of diseases, or interactions with private security personnel including through emergency preparedness and response, security force management. |
| PS 5: Land Acquisition and Involuntary Resettlement | Requires projects to avoid involuntary resettlement and to minimize its impact on those displaced through mitigation measures such as fair compensation and improvements to and living conditions. Active community engagement throughout the process is essential. |
### Performance Standard | Scope
--- | ---
PS 6: Biodiversity Conservation and Sustainable Natural Resource Management | Requires projects to consider biodiversity protection and conservation, to maintain ecosystem services, and to manage adequately living natural resources, which is especially relevant in developing countries where natural resource-based livelihoods are often prevalent.

PS 7: Indigenous People | Defines Indigenous People\(^1\) and requires activities to minimize negative impacts, to foster respect for human rights, dignity and culture of indigenous populations, and to promote development benefits in culturally appropriate ways. Informed consultation and participation with IPs throughout the project process is a core requirement.

PS 8: Cultural Heritage | Requires to protect cultural heritage from the adverse impacts of project activities and support its preservation and to promote the equitable sharing of benefits from the use of cultural heritage. Cultural heritage encompasses properties and sites of archaeological, historical, cultural, artistic, and religious significance.

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2

### THE WORLD BANK GROUP ENVIRONMENTAL, HEALTH AND SAFETY (EHS) GUIDELINES

The EHS Guidelines ([link](#)) are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). The EHS Guidelines contain the acceptable performance levels and measures that are generally considered to be achievable in new facilities at reasonable costs by existing technology. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects will be required to achieve whichever is more stringent.

Relevant EHS Guidelines for PATRIP Foundation activities comprise at least:

- General EHS Guidelines, for all projects involving construction
- Water and Sanitation, for water supply and sanitation projects
- Electric Power Transmission and Distribution, for power projects

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\(^1\) Indigenous people as per IFC definition, can be: Baluchis and Hazara in Afghanistan, Aimaqs in Afghanistan, Pakistan and Iran, Parimiris in Afghanistan and Tajikistan or Burusho and Dard in Pakistan.
ANNEX B

Potential Environmental and Social Impacts
### Annex B - POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

<table>
<thead>
<tr>
<th>Topic / IFC PS</th>
<th>Stage</th>
<th>Source of Impact</th>
<th>Type of Impact</th>
<th>Type of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>E&amp;S Risk Management</td>
<td>All</td>
<td>Indirect impacts from associated facilities to the projects, in particular the quarries to source construction material (gravel, sand)</td>
<td>Impacts linked to associated facilities considered (all topics)</td>
<td>Transport</td>
</tr>
<tr>
<td>E&amp;S Risk Management</td>
<td>All</td>
<td>Impacts from right of way for construction activities (such as access roads)</td>
<td>Impacts linked to associated facilities considered (all topics)</td>
<td>Energy</td>
</tr>
<tr>
<td>E&amp;S Risk Management (Stakeholder Engagement)</td>
<td>Planning</td>
<td>Lack of early community engagement</td>
<td>Reduce the social acceptance of projects</td>
<td>All</td>
</tr>
<tr>
<td>E&amp;S Risk Management</td>
<td>Planning</td>
<td>Lack of early site assessment and resulting</td>
<td>Irreversible damage to critical habitats and other sensitive natural resources</td>
<td>Construction</td>
</tr>
<tr>
<td>E&amp;S Risk Management (Stakeholder Engagement)</td>
<td>Planning</td>
<td>Potential beneficiaries need to be clearly informed on the conditions for accessing electricity, particularly regarding the tariffs aspects</td>
<td>Failure to project feasibility</td>
<td>Energy</td>
</tr>
<tr>
<td>Labour (Occupational Health &amp; Safety)</td>
<td>Planning and Implementation</td>
<td>Construction activities involving workforce (including subcontractors) exposed to noise and vibration, electrocution risk, hot works (welding), working at heights, exposition to chemicals and other hazardous materials, or traffic safety (transport to and on construction site)</td>
<td>Workers accidents, impacts on short, medium and longer term on workers’ health</td>
<td>All</td>
</tr>
<tr>
<td>Topic / IFC PS</td>
<td>Stage</td>
<td>Source of Impact</td>
<td>Type of Impact</td>
<td>Type of Project</td>
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</tr>
<tr>
<td>Labour Condition (Occupational Health &amp; Safety)</td>
<td>Implementation</td>
<td>Construction of bridges</td>
<td>Specific worker risk: Fall risks due to work at height</td>
<td>Transport (Bridges)</td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>Work at water and sanitation facilities may involve hazards such as open water, trenches or slippery walkways, depending on the size and the design.</td>
<td>Workers accidents, impacts on short, medium and longer term on workers’ health</td>
<td>Water</td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>Exposure to explosions</td>
<td>Workers accidents, impacts on short, medium and longer term on workers’ health</td>
<td>Demining</td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>Hiring of workforce (including subcontractors)</td>
<td>Abuse human rights: forced labour, child labour, discriminatory practices</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>-Electrocution due to contact with live power lines</td>
<td>Workers accidents, impacts on short, medium and longer term on workers’ health</td>
<td>Energy</td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>-Fall risks due to work at height on poles and structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>-Physical hazards from use of heavy equipment and cranes, trip and fall hazards, exposure to dust and noise, falling objects, work in confined spaces, exposure to hazardous materials and exposure to electrical hazards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td>-Exposition to chemicals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Planning, Operation</td>
<td>Storm water management not appropriately designed</td>
<td>Soil erosion</td>
<td>Buildings</td>
</tr>
<tr>
<td></td>
<td>Planning, Operation</td>
<td>Toilets or similar not designed appropriately</td>
<td>Surface or groundwater contamination and community health impacts</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The table above outlines various impacts associated with different projects and their respective stages, highlighting specific risks and their implications.
<table>
<thead>
<tr>
<th>Topic / IFC PS</th>
<th>Stage</th>
<th>Source of Impact</th>
<th>Type of Impact</th>
<th>Type of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Implementation</td>
<td>Bad use of hazardous materials</td>
<td>Pollution of soil and water resources</td>
<td>All</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Implementation</td>
<td>Earth works and use of heavy equipment and vehicles</td>
<td>Air and noise emissions</td>
<td>All</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Implementation</td>
<td>Elimination of mines (burning, explosion)</td>
<td>Contamination of water and soil</td>
<td>Demining</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Operation</td>
<td>Medical waste management system not designed and managed appropriately</td>
<td>Environmental contamination</td>
<td>Buildings (Health)</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Operation</td>
<td>Not appropriately managed organic waste from Markets</td>
<td>Contaminate the environment and the supplies sold on the markets</td>
<td>Buildings (Markets)</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Operation</td>
<td>Traffic, operation activities</td>
<td>Air and noise emissions Community accidents, impacts on short, medium and longer term on health</td>
<td>Transport, Energy</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution Prevention</td>
<td>Operation</td>
<td>Traffic, operation activities</td>
<td>Air and noise emissions Community accidents, impacts on short, medium and longer term on health</td>
<td>Transport, Energy</td>
</tr>
<tr>
<td>Topic / IFC PS</td>
<td>Stage</td>
<td>Source of Impact</td>
<td>Type of Impact</td>
<td>Type of Project</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Resources Efficiency and Pollution</td>
<td>Operation</td>
<td>Improper management of hazardous materials such as:</td>
<td>Environmental and health contamination</td>
<td>Energy</td>
</tr>
<tr>
<td>Prevention</td>
<td></td>
<td>-Mineral insulating oils used to cool transformers and provide electrical insulation;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health &amp; Safety</td>
<td></td>
<td>-Polychlorinated Biphenyls (PCB) contained in transformers and other electrical equipment;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Wood preservatives used to treat wooden poles; or</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Pesticides used for right-of-way vegetation maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources Efficiency and Pollution</td>
<td>Operation</td>
<td>Solid waste, wastewater or chemical waste produced, depending on the treatment process used</td>
<td>Contamination of water resources</td>
<td>Water</td>
</tr>
<tr>
<td>Prevention</td>
<td></td>
<td>Leaks in the water distribution system can reduce the water pressure in the distribution system and adversely impact the water quality</td>
<td>Overuse of water resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Threats to community health</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Project feasibility</td>
<td></td>
</tr>
<tr>
<td>Resources Efficiency and Pollution</td>
<td>Operation</td>
<td>Inefficient use of water resources</td>
<td>Degradation of water quality and erosion patterns</td>
<td>Water</td>
</tr>
<tr>
<td>Prevention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health &amp; Safety</td>
<td>Implementation</td>
<td>Construction sites if not appropriately protected and access restricted may constitute a danger for communities: open pits, accessible scaffoldings, unstable construction</td>
<td>Community accidents, impacts on short, medium and longer term on health</td>
<td>All</td>
</tr>
<tr>
<td>Topic / IFC PS</td>
<td>Stage</td>
<td>Source of Impact</td>
<td>Type of Impact</td>
<td>Type of Project</td>
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</tr>
<tr>
<td>Community</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td></td>
<td>Use of heavy machines and vehicles and resulting accidents</td>
<td>Community accidents, health impacts on short and medium term</td>
<td>Demining</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Access to non-secured demining land</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explosives and weapons can be stolen and reused if not destroyed or guarded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td></td>
<td>Use of heavy machines and vehicles</td>
<td>Accidents and risks to community</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td>Security forces for site guarding not appropriately trained</td>
<td>abuse on community by security forces</td>
<td>All</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrocution from direct or indirect contact with high-voltage electricity</td>
<td>Community accidents, health impacts on short term</td>
<td>Energy</td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td></td>
<td>Traffic safety and pedestrian safety</td>
<td>Community accidents, health impacts on short term</td>
<td>Transport</td>
</tr>
<tr>
<td></td>
<td>Operation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>Operation</td>
<td>Exposition of the roads and bridges to natural hazards if not carefully considered into the conception: flooding, heavy rains, earthquakes landslides, snow</td>
<td>Community accidents, health impacts on short term</td>
<td>Transport</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operation</td>
<td>Basic sanitation systems such as pit latrines, bucket latrines or flush toilets connected to septic tanks: faecal sludge may be dumped into the environment or used in unhygienic manner in agriculture.</td>
<td>Introduction of waterborne diseases Impact on human health</td>
<td>Water</td>
</tr>
<tr>
<td>Community</td>
<td>Operation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td></td>
<td>Traffic, depending on the traffic density and on the presence of receptors</td>
<td>Noise and air emissions</td>
<td>Transport</td>
</tr>
<tr>
<td>Topic / IFC PS</td>
<td>Stage</td>
<td>Source of Impact</td>
<td>Type of Impact</td>
<td>Type of Project</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>----------------</td>
<td>-------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td>Implementation</td>
<td>Inefficient use of resources (e.g. land, water and trees)</td>
<td>Threats to the peoples’ livelihoods</td>
<td>All</td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td>Operation</td>
<td>Inefficient use of resources (e.g. water and land)</td>
<td>Long Term threats to the peoples’ livelihoods</td>
<td>Construction</td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td>Operation</td>
<td>Right of way for maintenance activities</td>
<td>Temporary use of land, restriction of access</td>
<td>Energy</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Implementation</td>
<td>Construction activities</td>
<td>Impacts to critical habitats and other sensitive natural resources</td>
<td>All</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Planning</td>
<td>Movement of soil and excavations</td>
<td>Soil erosion</td>
<td>Construction</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Implementation</td>
<td>Disruption of watercourses; creation of barriers to wildlife movement; due Presence of machinery, construction workers, and associated equipment</td>
<td>Disruption of terrestrial and aquatic habitats, Visual and auditory disturbance</td>
<td>Transport</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Implementation</td>
<td>Sediment and erosion from construction activities and storm water runoff</td>
<td>Increase turbidity of surface waters</td>
<td>Transport</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Operation</td>
<td>Pesticides used for vegetation control due du right of way maintenance</td>
<td>Replacement of successional species and an increased likelihood of the establishment of invasive species</td>
<td>Transport</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Operation</td>
<td>Impermeable surface area increase,</td>
<td>Surface water runoff and eventually erosion and flooding</td>
<td>Transport</td>
</tr>
<tr>
<td>Biodiversity and Natural Habitats</td>
<td>Implementation</td>
<td>Bridges construction including dredging and piles in the river</td>
<td>Disruption of aquatic habitats Increase turbidity of water</td>
<td>Transport (Bridges)</td>
</tr>
<tr>
<td>Topic / IFC PS</td>
<td>Stage</td>
<td>Source of Impact</td>
<td>Type of Impact</td>
<td>Type of Project</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------</td>
<td>-----------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
| Biodiversity and Natural Habitats | Implementation Operation | Land take and construction activities | Alteration and disruption of terrestrial habitat  
  Impacts to avian species  
  Increased risk of forest fires | Energy          |
| Biodiversity and Natural Habitats | Operation     | Collisions and electrocutions                      | Avian and bat mortality                                                         | Energy          |
| Biodiversity and Natural Habitats | Operation     | Capture of full ecological flow                   | Loss of habitats and species                                                    | Water           |
| Indigenous People                 | All           | Insufficient of consideration of vulnerable indigenous minorities in the project concept. | Risk of abuse on vulnerable indigenous minorities. | All             |
| Cultural heritage E&S Risk Management | Planning     | Lack of early site assessment                     | Irreversible damage to cultural heritage                                         | Construction    |
ANNEX C

Environmental and Social Categorisation Checklist
**OVERVIEW OF THE PROJECT**

- **Project Title:**
- **Project Code:**
- **Project Location (country, province, city):**
- **Name of Implementing Partner:**
- **Contact details of responsible persons completing this questionnaire, if assigned:**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Telephone Number</th>
<th>E-Mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**PROJECT DETAILS**

- **Type of Project:**
  - ☐ Basic Infrastructure
  - ☐ Power Transmission
  - ☐ Irrigation & Agriculture
  - ☐ Soft skill interventions, such as capacity building/training projects
  - ☐ Landmines Clearance
  - ☐ Transport Infrastructure (Road/Bridge)
  - ☐ Water Supply/Sanitation
  - ☐ other; please specify:

**Brief description of the project (type, location, scale - e.g. hectares, length, beneficiaries, or any information useful for environmental and social assessment):**

**Proposed Activities:**

**Land use characteristics of the Project Area:**

- ☐ New site (Greenfield) on agricultural land
- ☑ New site (Greenfield) on residential/industrial land
- ☐ New site on barren land (not suitable for cultivation and not constructed, not cultivated)
- ☐ Site with evidence for past development
- ☐ Rehabilitation / extension of existing site building (specify current/past use):
- ☑ Project does not require additional land or land acquisition
- ☐ Rehabilitation of existing irrigation or agriculture area
- ☐ Expansion of existing irrigation or agriculture area
- ☐ Site is being used as pastures or grazing land
- ☐ Other, please specify:
- ☐ Not applicable, please specify:
Project Details
Available E&S Documents for Review:
☐ Implementing Partner Internal ES assessment
☐ Engineering Study
☐ Official EIA approved by authorities
☐ Other reports, please specify:
☐ E&S Assessment by third party
☐ Media articles
☐ EIA non-approved
☐ Feasibility Study

Fill in Mine UXO/EWR Risk Assessment Checklist (Appendix 1)
☐ Land is considered to be safe of UXO/EWR risk
☐ UXO/EWR Land Clearance may be needed and is requested
☐ Original planning needs to be deviated – provide details separately

Screening Questions - Part 1
Is the project type listed on PATRIP Foundation Exclusion List? ☐ Yes ☐ No
Does the project require land use change of more than 15 ha cumulated? ☐ Yes ☐ No
Does the project require construction of electrical transmission lines of capacity above 110 kV? ☐ Yes ☐ No
Will the project involve involuntary resettlement? ☐ Yes ☐ No
Is land to be used by the project under dispute? ☐ Yes ☐ No
Does the project cause conversion or degradation of critical natural habitats? ☐ Yes ☐ No
Can the project adversely impact cultural property such as World Cultural Heritage sites, archaeological and/or historical sites, including religious monuments and/or cemeteries? ☐ Yes ☐ No
Conversion of pastures or grazing land to agriculture activities? ☐ Yes ☐ No
Requires use of pesticides under WHO classification Ia or Ib? ☐ Yes ☐ No
Does the project include the construction or rehabilitation of dams or water storages taller than five meters? ☐ Yes ☐ No
Does the project lead to a diversion of water from international/transboundary waterways? ☐ Yes ☐ No

If the answer to any of Screening Questions - Part 1 is “Yes”, the project may be classified in Category A and would not fundable by PATRIP. If the answers to all these questions are “No”, the Screening Questions - Part 2 should be answered.
### Environmental and Social Checklist – Part II

To be completed by the **Implementing Partner** as a first draft at the submission of the concept note or simplified project proposal and as the final version as an attachment of the detailed project proposal.

#### Screening Questions – Part 2

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer and next steps</th>
<th>Comment by applicant</th>
<th>Review by PATRIP</th>
</tr>
</thead>
</table>
| Does the project include new construction of more than 2km asphalt roads OR 10 km rural road | ☐ Yes  The project should be categorized in B+ and unless a suitable Environmental and Social Impact Assessment is already available, a specific E&S Assessment (Annex E & D2) is to be fulfilled by the applicant (via an external E&S Consultant). If the project triggers Category B+ but an ESIA is available beforehand, comments on the suitability of the ESIA are to be provided.  
☐ No  For a road below the threshold, please document the road trace with maps including environmental and social sensitivities. | | |
| Does the project include the construction of a bridge with a pole in a permanent water course or dredging activities, including quarries? | ☐ Yes  The project should be categorized in B+ and unless a suitable Environmental and Social Impact Assessment is already available, a specific E&S Assessment (Annex E & D2) is to be fulfilled by the applicant (via an external E&S Consultant). The E&S Assessment should focus on river ecosystem including aquatic biology, presence of protected species, riverbed soil characteristics, hydraulic regimes incl. seasonal and exceptional variations, water quality, social use of the river etc. The assessment should include a description of the project impacting the river (plans, localisation, activities and specific OHS risks).  
☐ No | | |
| Does the project require construction of new electrical transmission lines? | ☐ Yes  The project should be categorized in B+ and unless a suitable Environmental and Social Impact Assessment is already available, a specific E&S Assessment (Annex E & D3) is to be fulfilled by the applicant (via an external E&S Consultant).  
☐ No  For projects including TL upgrade/restoration or TL below the threshold, in this condition project falls in category B and a generic ESIA (Annex D3) is required. In this case, please document the TL trace and associated facilities (transformers, substations, access roads) with maps including environmental and social sensitivities. | | |
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer and next steps</th>
<th>Comment by applicant</th>
<th>Review by PATRIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the project include the expansion of an existing irrigation infrastructure and agricultural land and the accumulated extension area is less than 15 ha?</td>
<td>☐ Yes  The project should be categorized in B+ and unless a suitable Environmental and Social Impact Assessment is already available, a Specific E&amp;S Assessment (Annex E &amp; D6) is to be fulfilled including Integrated Pest Management plan by the applicant (via an external E&amp;S Consultant). Should an ESIA be available beforehand, comments on the suitability of the EISA shall be provided. ❑ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the project include the rehabilitation of a simple, small-scale and traditionally farmer led irrigation scheme with a total area of more than 50 ha accumulated?</td>
<td>☐ Yes  The project should be categorized in B+ and unless a suitable Environmental and Social Impact Assessment is already available, a Specific E&amp;S Assessment (Annex E &amp; D6) is to be fulfilled including Integrated Pest Management plan by the applicant (via an external E&amp;S Consultant). Should an ESIA be available beforehand, comments on the suitability of the EISA shall be provided. ❑ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the project include the construction, expansion or rehabilitation of a simple, small-scale water distribution and sanitation infrastructure beyond existing systems that requires digging of groundwater wells, pumping and/or direct water extraction from a source of more than 60,000 litres per day?</td>
<td>☐ Yes  The project should be categorized in B+ and unless a suitable Environmental and Social Impact Assessment is already available, a Specific E&amp;S Assessment (Annex E &amp; D6) is to be fulfilled including Integrated Pest Management plan by the applicant (via an external E&amp;S Consultant). Should an ESIA be available beforehand, comments on the suitability of the EISA shall be provided. ❑ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the project present a risk of release of pollutants, hazardous waste, including pesticides, herbicides and other chemicals, into the environment and the identified risks cannot be mitigated by best practice solutions?</td>
<td>☐ Yes  Provide an inventory of pollutants and the risk they present if released in the environment. If necessary, add specific mitigation measures in the ESMP. ❑ No ❑ unknown  Reassess in advance of the submission of the Detailed Project Proposal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Screening Questions – Part 2

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer and next steps</th>
<th>Comment by applicant</th>
<th>Review by PATRIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>If accommodation or workers’ camp needs to be built for the purpose of the project, does it consist of a permanent building or does it consist of a temporary camp for at least 100 workers?</td>
<td>☐ Yes  Document detailed information on the camps to be built (sitting, design, material, capacity, options for waste management, water and sanitation, security issues, etc.) construction processes and dismantling options. Add specific mitigation measures in the ESMP.  ☐ No  ☐ unknown  Reassess in advance of the submission of the Detailed Project Proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the land on which the project will be implemented been partly or fully voluntary donated by community and/or individuals?</td>
<td>☐ Yes  Document the land donation by using the KfW requirements for voluntary land donations (See Appendix). Sign a voluntary donation of land agreement for each of the identified owners.  ☐ No  ☐ unknown  Reassess in advance of the submission of the Detailed Project Proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the project requires land which is not voluntary donated, does the Project trigger temporary or permanent loss of income sources or means of livelihood (such as loss of crops, trees, grazing areas) by direct land acquisition or access restriction to resources?</td>
<td>☐ Yes  A ‘Land Acquisition and Compensation Plan” according to Annexe H needs to be prepared and implemented.  ☐ No  ☐ unknown  Reassess in advance of the submission of the Detailed Project Proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can the project ensure that no areas of high ecological value (e.g. wetlands, forests, nesting sites, presence of protected species) or buffer zones of protected areas are adversely impacted?</td>
<td>☐ Yes  Please comment  ☐ unknown  Reassess in advance of the submission of the Detailed Project Proposal  ☐ No  Document classification of likely impacted habitats, flora/fauna inventory and protection status, likelihood of presence of protected species, ecosystem services based on secondary data or on primary data collection as feasible. Describe, localise and quantify specific impacts not covered in the ESMP and add specific mitigation measures in the specific ESMP.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If no answers to the above questions leads to additional assessments or actions, the project shall be classified into Category B, which will imply the implementation of generic mitigation measures described in PATRIP Foundation Environmental and Social Management System (ESMS).

If the answer to those questions triggers further actions, the project shall be classified into Category B+ and further assessment or actions as described need to be carried out.

Filled by the Applicant by: ___________________________ Date: __________

Filled by PATRIP by: ___________________________ Date: __________
# Environmental and Social Checklist - PART III

*To be completed by PATRIP (E&S Officer Monitoring Consultant) for projects in Category B and B+ at the completion of the detailed project proposal.*

**Project Title and Code:**
**Name of Implementing Partner:**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer and comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have the actions or assessments required by PART II been reviewed by PATRIP and satisfactory?</td>
<td></td>
</tr>
<tr>
<td>2. Is the ESA compliant with the PATRIP Foundation E&amp;S Policy? If not, please give details.</td>
<td></td>
</tr>
<tr>
<td>3. Does the project involve only Soft skill interventions, such as capacity building/training projects?</td>
<td>Category C Project: Since there are no adverse risks or impacts on human populations and/or the environment, projects do not require any particular E&amp;S management but should aim to include relevant ESHS requirements in the training and capacity building programs, for example on the safe handling of certain equipment or machinery.</td>
</tr>
</tbody>
</table>

**Decision Case by PATRIP**

- Following actions need to be completed before the project can be funded / can start:

<table>
<thead>
<tr>
<th>Actions</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The project involves no adverse risks or impacts on human populations and/or the environment and therefore only the integration relevant ESHS components is required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are Low adverse E&amp;S risks and impacts and the generic ESMP should be applied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are Low to medium adverse E&amp;S risks and impacts and a generic ESMP should be applied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are Substantial adverse E&amp;S risks and impacts and a site-specific E&amp;S Assessment should be conducted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The project requires land which is to be donated voluntarily based on provision for voluntary land donation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The project requires land which is not voluntary donated and thus a LACP should be developed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land is considered not to be safe of UXO/EWR and the project requires a UXO/EWR Risk Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The project requires accommodation and/or workers camp and thus an adjusted Workers Code of Conduct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The project involves medical waste and requires a Medical Waste Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The project includes irrigation and agriculture development and requires an Integrated Pest Management Plan.</td>
<td></td>
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</tbody>
</table>

Others:

- No further E&S assessment is required, and the identified E&S risks are covered by application of ESMP (standard or including additional measures) and related tools. The decision is justified on the review of following documentation:
  - Project Application Dossier
  - Engineering Study
  - Official EIA
  - Feasibility Study
  - Implementing Partner Internal ES assessment
  - E&S Assessment by third party
  - Other, reports please specify:
  - Other comments:

**Date, Name:**

---

**PATRIP FOUNDATION ESMS**

**ANNEX C III**
Appendix 1 – UXO/EWR Risk Assessment Checklist

Project Title and Code:

Name of Implementing Partner:

Implementing Partners should be aware that reconstruction and rehabilitation projects under PATRIP Foundation funding are implemented in areas which may present the risks of explosive war remnants (EWR) concealed in and under rubble (both unexploded ordnance - UXO, and deliberately planted explosives). Where potentially known areas of contamination exist, partners must reconsider to relocate the project site or undertake measures to have the land cleared of landmines, EWR, IEDs and UXOs. The declaration of absence of EWR will be a criterion to allow any PATRIP-financed works to proceed (Organisations specialising on demining are exempted of these requirements).

<table>
<thead>
<tr>
<th>Question</th>
<th>No</th>
<th>Yes</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there armed fighting in the project area within the last 20 years?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the area been used as ammunition depots, training camp by military or armed forces? Give details:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was there any landmine/UXO/EWR accident within the direct project area within the last 20 years? Give details:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the direct project area been cleared for landmine/UXO/EWR in the past? When?:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there any other elements indicating presence of landmine/UXO/EWR in the project area? Give details:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mention the source of above information:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can the Implementing Partner declare to the best of their knowledge that the area considered as safe of mines before construction works?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the Implementing Partner take provision for relocating the foreseen project site?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the Implementing Partner request a landmine/UXO/EWR clearance before the project can start? If yes, give information on the area to be cleared:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Current use:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Surface</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exact location: (attach map and GPS data)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date, Name: ____________________________________________________________
Appendix 2 - Requirements for voluntary land donations

Voluntary land donations are only acceptable provided that the Implementing Partner verifies and demonstrates that all voluntary land transactions meet the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes + explanation</th>
<th>No + explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The land in question is free of squatters and no people with customary rights or no legal title are using it;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The land in question is free from any dispute on ownership or any other encumbrances;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. No household relocation is involved;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The amount of land being donated is minor and will not reduce the donor’s remaining land area below that required (e.g., no more than 10% of total agricultural land holding donated) to maintain the donor’s livelihood at current levels;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The donor is expected to benefit directly from the project;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The donor is aware that refusal is an option;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. The donor has been appropriately informed and consulted about the project and the choices available to him/her;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. A grievance redress mechanism is in place to hear complaints regarding land acquisition;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Land transfer will be completed through registration after the donor has confirmed in writing his/her willingness to proceed with the donation;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. For community or collective land, donation has occurred with the consent of individuals using or occupying the land.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Implementing Partner, through field technical teams, will verify the fulfillment of these criteria and provide further explanations on each criteria. If all criteria are fulfilled, the Implementing Partner will ensure completion of the voluntary land transaction in written consent form (see sample waiver below). The donation will be verified by two witnesses who are community leaders but not beneficiaries of the subproject, to ensure that the land was voluntarily donated without any form of duress. The signed waivers will be submitted to PATRIP and verified by the Bank in order to ensure that the voluntary land donation has been conducted in accordance with the above criteria.
A SAMPLE VOLUNTARY DONATION OF LAND AGREEMENT

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

1. That the land with certificate no………… is a part of …………, is surrounded from eastern side by…………., western side by………………, northern side by …………., and southern side by…………….

2. That the Owner holds the transferable rights of land ………….. (area in square meters), with plot no……… at the above location (include a copy of the certified map, if available).

3. That the Owner testifies that the land/structure is free of squatters, no people with customary rights or no legal title are using it, no household relocation will be needed and that there is no dispute on ownership or any other encumbrances in regards to the land.

4. That the Owner ensures that the amount of land being donated is minor and will not reduce the Owner’s remaining land area below that required (i.e., no more than 10% of total agricultural land holding donated) to maintain the Owner’s livelihood at current levels.

5. That the Owner has been appropriately informed and consulted about the project and the choices available (including refusal) as well as possible ways to address grievances.

6. That the Owner hereby grants to the……………….... (name of the Recipient) this asset for the construction and development of the …………..…. ………… for the benefit of the community and that the Owner’s property rights will be handed over to and registered in the name of ……………….... (name of the Recipient).

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

8. That the ……………………………(name of the project Proponent) agrees to accept this grant of asset for the purposes mentioned.

______________________________   ________________________________
Name and Signature of the Owner   Signature of Subproject Proponent/Representative

(Signature, name and address)   (Signature, name and address)

Witnesses 1:   Witnesses 2:

1……………………………………  2……………………………………
(Signature, name and address)   (Signature, name and address)
ANNEX D

Environmental and Social Management Plans
### Environmental and Social Management Plans (ESMP)

The table below summarises the key mitigation measures per projects type and per project phase. Not shown in this table are the measures that are valid for all projects types as described in the ESMS. This are:

- Stakeholder engagement including grievance mechanism (all phases) – See ES Policy Section 3.5.2.2 and Appendix 1
- Minimum Labour Standards (construction) – See ES Policy Section 3.5.2.3
- Workers Health & Safety including incident reporting (construction) – See ES Policy Section 3.5.2.4 and Incident Reporting Form in Annex F
- Construction Contractor Code of Conduct – See Appendix 2

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Preparation (conception, planning)</th>
<th>Implementation / Construction</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Infrastructure</strong></td>
<td>• Project design</td>
<td>• Community health &amp; safety:</td>
<td>• Waste management programmes</td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D1</td>
<td>o Maintenance arrangements</td>
<td></td>
</tr>
<tr>
<td><strong>Transportation Infrastructure</strong></td>
<td>• Project design</td>
<td>• Community health &amp; safety:</td>
<td>• Community Health &amp; Safety: traffic safety measures</td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D2</td>
<td>o Best practices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D2</td>
<td>o Associated facilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D2</td>
<td>Project sitting incl. Land and livelihoods, natural habitats and cultural heritage</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Project design</strong></td>
<td>• Community health &amp; safety:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D2</td>
<td>o site access restriction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D2</td>
<td>o traffic safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Construction Best Practices</strong></td>
<td>• Construction Best Practices (soil, water, natural habitats, noise, emissions)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D2</td>
<td>• Accidental resettlement</td>
<td></td>
</tr>
<tr>
<td><strong>Power Transmission</strong></td>
<td>• Project design</td>
<td>• Community health &amp; safety:</td>
<td>• Workers health &amp; safety (maintenance)</td>
</tr>
<tr>
<td>➢ See Annex D3</td>
<td>➢ See Annex D3</td>
<td>o Associated facilities</td>
<td>• Community Health &amp; Safety: protection against electrocution</td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D3</td>
<td>o “Bird friendly design”</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Project sitting</strong></td>
<td>• Community health &amp; safety:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ See Annex D4</td>
<td>o site access restriction</td>
<td></td>
</tr>
<tr>
<td><strong>Water and Sanitation</strong></td>
<td>• Project design</td>
<td>• Construction best practices (soil, water, natural habitats, noise, emissions)</td>
<td>• Community Health &amp; Safety: maintenance arrangements</td>
</tr>
<tr>
<td>➢ See Annex D4</td>
<td>➢ See Annex D4</td>
<td>o Accidental resettlement</td>
<td></td>
</tr>
<tr>
<td><strong>Landmines Clearance</strong></td>
<td>• Implementation partner selection</td>
<td>• Community health &amp; safety:</td>
<td>• N/A</td>
</tr>
<tr>
<td>➢ See Annex D5</td>
<td></td>
<td>o site access restriction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>o emergency preparedness</td>
<td></td>
</tr>
</tbody>
</table>
| Irrigation & Agriculture | • Project design  
  o Best practices  
  o Associated facilities  
  • Project sitting incl. Land and livelihoods, natural habitats and cultural heritage | • Community health & safety  
  o site access restriction  
  o traffic safety  
  • Construction Best Practices (soil, water, natural habitats, noise, emissions)  
  • Accidental resettlement | • Community Health & Safety: traffic safety measures |
## ANNEX D1

### ESMP for Basic Infrastructure Projects (Construction)

<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
<th>Measure</th>
<th>Means of Verification</th>
<th>Responsibility</th>
<th>Monitoring procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E&amp;S Risk Management</td>
<td>Project sitting</td>
<td>Build as far as practical and relevant from neighbours’ residences and sensible receptors (schools, hospitals). Plan the project to avoid areas environmental sensitive, prone to natural disasters or places of cultural and social interest. Plan the project so that land acquisition or impact on livelihoods is avoided.</td>
<td>Project application / Project concept</td>
<td>IP</td>
</tr>
<tr>
<td></td>
<td>Project sitting</td>
<td>Identify risks linked to the previous use of the site, such as soil contaminations, and have the source of contamination removed before construction can start</td>
<td>Project application</td>
<td>IP</td>
<td>Construction reports</td>
</tr>
<tr>
<td></td>
<td>Project design</td>
<td>Ensure low-maintenance solutions in the design of buildings, e.g. based on other buildings of the same type in the region. Ensure that key routine maintenance and operations can be implemented by the community/beneficiaries. Account for proper ventilation and adequate resistance to severe weather or natural disasters. Consider as relevant the emergency preparedness in the planning of buildings, such as provision for fire emergency evacuation.</td>
<td>Project application / Project concept</td>
<td>IP</td>
<td>Construction reports</td>
</tr>
<tr>
<td></td>
<td>Project design</td>
<td>Ensure local communities are preferred for the supply of goods and services to the project and project personnel, where appropriate. If materials and competences are available locally, they should be sourced locally provided it does not disturb local economy.</td>
<td>Site observations</td>
<td>IP</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Indigenous People Stakeholder Engagement</td>
<td>Engage/ communicate with communities and plan sufficient time for participation. Ensure regular consultations with the local authorities and communities regarding the management of construction. Use Appendix 1 to this ESMP. On-going consultation processes should identify marginalized groups, including indigenous people as per IFC definition</td>
<td>Project Documentation Stakeholder Engagement Minutes</td>
<td>IP</td>
<td>Document review Grievance records</td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
<td>Responsibility</td>
<td>Monitoring procedure</td>
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<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Sensitize Implementation Partners on OHS. Provide H&amp;S training to contractors and workers.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Consultant</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP Contractor</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td></td>
<td>Labour Conditions</td>
<td>Ensure minimum labour conditions (child labour, forced labour, non-discrimination) required by ILO Conventions. Contribution from community in the form labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods.</td>
<td>Grievance Mechanism</td>
<td>Contractor</td>
<td>Inspection reports also from labour authorities, Review of grievance register and training record</td>
</tr>
<tr>
<td></td>
<td>Labour Conditions</td>
<td>Ensure the workforce has access to primary healthcare on site, providing prescriptions. As a minimum, first aid kits need to be available on every construction site. Emergency services (next hospital, health center or doctor) needs to be identified and made available to workers in case of need.</td>
<td>Observations Grievance Mechanism</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Provide H&amp;S training to contractors and workers on the main risks on workers’ health and safety related to work place (hazardous substance management, work at height, electric, traffic safety), the safe work practices, the emergency procedures and the requirement of incident reporting.</td>
<td>Minutes of Meetings</td>
<td>Contractor</td>
<td>Check Training records</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Record accidents and near misses continuously. Implement incentive programme for incident recording.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Contractor IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Monitor the security warnings and adapt a proactive attitude vis a vis security situation. Evacuate workers if necessary.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Contractor IP</td>
<td>Check Training records Check incidents reports</td>
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<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Ensure the use of Personal Protective Equipment (PPE) tailored to the hazard exposed to for workers. As a minimum foot plus head, hand, ear, eyes protection, depending on working position.</td>
<td>Observations</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Emissions (dust, noise, gases)</td>
<td>Reduce source of dust emissions at construction sites by - watering of transportation roads during dry and windy conditions. Generally keep roads in good condition. Cover truck loads with canvas to avoid dust blow. - Minimising drop heights for material transfer activities such as unloading of friable materials. Cover stockpiles when not used. - Using equipment and vehicles in appropriate technical conditions. Provide emissions control equipment where applicable (e.g. filters). Use low sulphur content fuels, in line with legal provisions in force as well as local availability. Ensure vehicles and equipment are switched off when not in use.</td>
<td>Observations</td>
<td>Contractor</td>
<td>Random site inspection, inspection of roads</td>
</tr>
<tr>
<td></td>
<td>Noise and vibration impacts</td>
<td>Reduce noise and vibration impacts during construction. - Limit the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas or close to residential houses (typically between 10 pm and 7 am). Avoid vehicle movements at night. - Use of state-of-the-art technology and limit the number of machines operated simultaneously. - Ensure the use of modern and well-maintained equipment (e.g. use of silencers).</td>
<td>No work conducted between 10pm and 7 am/ Grievance Mechanism</td>
<td>Contractor</td>
<td>Random site inspection, Review of filed grievances, review of timesheets of workers</td>
</tr>
<tr>
<td></td>
<td>Soil and groundwater contamination</td>
<td>Maintain high standards in housekeeping on site. - Identify and store appropriately (define dedicated storage areas with secondary containment) all hazardous substances like fuel or chemicals and provide solutions to remediate unforeseen leakage and spills. Enforce appropriate waste management practices: - Give priority to reuse of waste material upon disposal. Use licensed waste contractor as feasible and relevant. - Collect and segregate wastes and ensure safe storage and in line with legal requirements.</td>
<td>Dedicated storage areas in place Waste Manifests</td>
<td>Contractor</td>
<td>Random site inspection, Review of waste inventories</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
<td>Responsibility</td>
<td>Monitoring procedure</td>
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</tbody>
</table>
|     | Water Resources Protection | Implement best practices for water management  
- Prioritise the use of rainwater/stormwater over surface water/groundwater abstraction by using harvesting equipment and systems on site.  
- Reuse wastewater wherever feasible.  
- Restrict excavation activities during periods of intense rainfall. Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters.  
- Carry out excavation works in cut off ditches to prevent water from entering excavations. | Water harvesting conducted,  
No excavation during intense rainfall,  
Project application / Project concept | Contractor | Random site inspection, Project planning documents |
|     | Community Health & Safety | Implement good practices for traffic safety:  
- Schedule traffic activities to avoid peak hours on local roads if feasible.  
- Set traffic speed limits, verify drivers’ behaviour with respect to driving speed and safety. Ensure safe driving by project personnel, e.g. through training/induction/incentives (best driver awards).  
- Avoid as much as possible driving at night. | Observations  
Training attendance lists | Contractor | Random site inspection |
|     | Community Health & Safety | Restrict access to construction sites to non-authorized persons  
- Prevent physical access to the site fencing and/or guarding  
- Use appropriate signage  
- Inform site users, community leaders, authorities (informal/official) during stakeholder meetings about access restrictions | Access controlled | Implementing Partner | Random site inspection |
|     | Community Health & Safety | In case of security personnel at the site, ensure that they are properly trained in the use of force and appropriate conduct toward workers and affected communities | | | |
|     | Waste Management | Implement state of the art relevant waste management procedures  
- For MEDICAL FACILITIES: implement state of the art medical waste management plan, including possible on site-disposal. See note below  
- For MARKETS: include waste management arrangements in the project conception, via market management committees or similar | Waste management procedure in place | Contractor or recipient of buildings | Review of procedure, Random site inspection |
**Guidance on medical waste management system:**

Health facilities must operate a medical waste management system that, as a minimum shall include dedicated collection and storage of contaminated waste (infectious) and sharps/needles to minimise infection risks. Sharps need to be stored in closed and resistant containers to prevent cuts. Areas used to store medical/infectious waste should be easily cleanable, impermeable to liquids, and protected to prevent spread of infectious agents. Biomedical waste other than sharps and bulk liquids must be packaged in sealed in leak-proof and rip-resistant bags. Low-technology on-site disposal of medical waste such as incineration in single drum incinerator (empty fuel drum or clay brick oven) is an acceptable solution for medical waste disposal in resources limited environment. The hospital should nevertheless ensure that:

- The incinerator size is adapted to the quantity of waste to treat
- There is sufficient air inlet to ensure a good combustion
- There is a long chimney to ensure evacuation of smokes (location of incinerator toward receptors is also important)
- Wastes presenting a risk of explosion or contamination should not be incinerated (pressurized gas containers, large amounts of reactive chemical waste, silver salts and photographic or radiographic wastes, waste with high mercury or cadmium content etc.)
- Ashes are removed before incineration to ensure good combustion and disposed in a closed ashes pit

Hospital personal needs to be trained to use this system and the persons in charge of waste management needs to wear appropriate PPEs.
**ANNEX D2**

**ESMP for Transportation Infrastructure Projects**

NB: The mitigation measures below are generic for transportation infrastructure projects. It is likely that most of roads and bridge new construction projects may be subject to a Rapid ESIA and will therefore need to elaborate a project specific list of mitigation measures.

<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
<th>Measure</th>
<th>Means of Verification</th>
<th>Responsibility</th>
<th>Monitoring procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation (conception, planning)</td>
<td>E&amp;S Risk Management</td>
<td>Project sitting</td>
<td>Plan the project to avoid - Cultivated lands and grazing areas - Environmentally sensitive areas, such as wetlands, and places near protected areas (buffer zones) or underrated forests - Crossing critical aquatic habitat (e.g. watercourses, wetlands, and riparian areas), as well as fish spawning habitat, and critical fish over-wintering habitat - Known areas of historical/cultural/archaeological interest - Rivers and streams as well as flooded areas (consider seasonal variations) - Long downhill stretches and slopes above 10%. When possible, roads should follow hill contours</td>
<td>Design documents (feasibility Studies)</td>
<td>IP</td>
</tr>
<tr>
<td></td>
<td>Project design</td>
<td>- Include provisions for maintenance of roads and drainage system. The maintenance requirements should be doable in the local context (either by authorities or by communities). - Finalize maintenance agreements with local communities before beginning construction.</td>
<td>Design documents (feasibility Studies)</td>
<td>IP and recipient of project</td>
<td>Project planning documents</td>
</tr>
<tr>
<td></td>
<td>Project design</td>
<td>All road projects, including road upgrade, rehabilitation of new roads need to undergo a feasibility study / engineering study by qualified engineers to consider best technical practices. Ensure that a drainage system is included in the design to prevent / minimise erosion.</td>
<td>Design documents (feasibility Studies)</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
<tr>
<td></td>
<td>Project design</td>
<td>Consider all associated facilities throughout the E&amp;S risk management activities, such as: - All sources of materials such as quarries for road backfill material, sand, gravel etc. - All temporary facilities used for construction such as worker camps, material storage areas, vehicle parking etc.</td>
<td>Design documents (feasibility Studies)</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
<td>Responsibility</td>
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</tr>
<tr>
<td></td>
<td>Project design</td>
<td>Ensure local communities are preferred for the supply of goods and services to the project and project personnel, where appropriate. If materials and competences are available locally, they should be sourced locally provided it does not disturb local economy.</td>
<td>Site observations</td>
<td>IP</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Indigenous People Stakeholder Engagement</td>
<td>Engage/ communicate with communities and plan sufficient time for participation. Ensure regular consultations with the local authorities and communities regarding the management of construction. On-going consultation processes should identify marginalized groups, including indigenous people as per IFC definition. <em>Use Appendix 1 to this ESMP.</em></td>
<td>Project Documentation Stakeholder Engagement Minutes</td>
<td>IP</td>
<td>Document review Grievance records</td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Sensitize Implementation Partners on OHS. Provide H&amp;S training to contractors and workers.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Consultant IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td>Project design / Land Acquisition and Resettlement</td>
<td>Engage with communities and authorities at the earliest stage to understand the land ownership and land use. Engage with the local community and potential affected households to understand their needs and identify the risk of damage to their livelihood basis through the project (e.g. take of pasture land, lack of access to water).</td>
<td>Minutes of Meetings Grievance Mechanism records</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
<tr>
<td></td>
<td>Land Acquisition and Resettlement</td>
<td>Should physical or economic displacement be inevitable (accidental situation), resettlement should be addressed according best practices mentioned in &quot;Land Acquisition and Livelihood Restoration Framework&quot; and KfW KCUS needs to be involved.</td>
<td>Minutes of Meetings Grievance Mechanism records Management Plan for Land Acquisition and Compensation if needed</td>
<td>IP</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
<td>Responsibility</td>
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</tbody>
</table>
|     | Project sitting and design     | Minimise impacts on flora/Fauna  
- Maintain fish access when road crossings of watercourses are unavoidable by utilizing clearspan bridges, open-bottom culverts, or other approved methods  
- Schedule activities to avoid breeding and nesting seasons for any identified critically endangered or endangered wildlife species.³ | Site Observations     | Contractor     | Site inspections            |
|     | Natural Habitats / Biodiversity |                                                                                                                                            |                       |                |                             |
|     |                                 |                                                                                                                                            |                       |                |                             |
|     | Grievance Mechanism            | Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed. | Grievance Mechanism  | IP and Contractor | Review of grievance register |
|     | Labour Conditions              | - Ensure minimum labour conditions (child labour, forced labour, non-discrimination) required by ILO Conventions.  
- Contribution from community in the form of labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods. | Grievance Mechanism  | Contractor     | Inspection reports (also from labour authorities), Review of grievance register and training record |
|     | Labour Conditions              | Ensure the workforce has access to primary healthcare on site, providing prescriptions.  
- As a minimum, first aid kits need to be available on every construction site.  
- Emergency services (next hospital, health center or doctor) needs to be identified and made available to workers in case of need.  
Should worker camps be requested, provide workers with acceptable housing conditions ensuring the provision of adequate space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, security and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services | Observations          | Contractor     | Random site inspection     |
|     | Occupational Health & Safety   | Provide H&S training to contractors and workers on the main risks on workers’ health and safety related to work place (hazardous substance management, work at height, electric, traffic safety), the safe work practices, the emergency procedures and the requirement of incident reporting. | Minutes of Meetings   | Contractor IP  | Check Training records      |

³Minimise impacts on flora/Fauna  
- Maintain fish access when road crossings of watercourses are unavoidable by utilizing clearspan bridges, open-bottom culverts, or other approved methods  
- Schedule activities to avoid breeding and nesting seasons for any identified critically endangered or endangered wildlife species.³
<table>
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|     | Soil and groundwater contamination | Maintain high standards in housekeeping on site.  
- Identify and store appropriately (define dedicated storage areas with secondary containment) all hazardous substances like fuel or chemicals and provide solutions to remediate unforeseen leakage and spills  
Enforce appropriate waste management practices:  
- Give priority to reuse of waste material upon disposal. Use licenced waste contractor as feasible and relevant.  
- Collect and segregate wastes and ensure safe storage and in line with legal requirements. | Dedicated storage areas in place  
Waste Manifests | Contractor | Random site inspection, Review of waste inventories |
|     | Soil Management | Implement best practices for soil management  
- Ensure appropriate storing of topsoil removed. After construction, topsoil will be used as backfill for restoration of the area.  
- Limit stockpile height to 2 m maximum to avoid soil compensation.  
- Reinstatement of construction working area to the best possible after construction activities are completed.  
- If construction takes place on inclined surfaces/slopes, ensure preventive erosion control measures are applied (e.g. plan to retain trees and other vegetation, use of natural contours for roads and drainage networks, excavated drainage channels). | Topsoil stored and re-used | Contractor | Random site inspection |
|     | Implementation / Construction | Water Resources Protection  
Implement best practices for water management  
- Prioritise the use of rainwater/stormwater over surface water/groundwater abstraction by using harvesting equipment and systems on site.  
- Reuse wastewater wherever feasible.  
- Restrict excavation activities during periods of intense rainfall.  
- Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters.  
- Carry out excavation works in cut off ditches to prevent water from entering excavations. | Water harvesting conducted,  
No excavation during intense rainfall,  
Project application / Project concept | Contractor | Random site inspection, Project planning documents |
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<td>Community Health &amp; Safety</td>
<td>Restrict access to construction sites to non-authorized persons</td>
<td>Access controlled</td>
<td>Implementing Partner</td>
<td>Random site inspection</td>
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<td></td>
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<td>- Prevent physical access to the site fencing and/or guarding</td>
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<td>- Use appropriate signage</td>
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<td>- Inform site users, community leaders, authorities (informal/official)</td>
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<td>during stakeholder meetings about access restrictions</td>
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<td>Community Health &amp; Safety</td>
<td>In case of security personnel at the site, ensure that they are</td>
<td>Subcontractor Qualifications, Training Records</td>
<td>Implementing Partner</td>
<td>Review of training records and grievance register</td>
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<td>properly trained in the use of force and appropriate conduct</td>
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<td>toward workers and affected communities</td>
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<td>Community Health &amp; Safety</td>
<td>Consider best practices for road construction:</td>
<td>Site Observations</td>
<td>Contractor</td>
<td>Site inspections</td>
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<td></td>
<td>Traffic Safety</td>
<td>- Stabilize slopes by planting vegetation as feasible. Work with</td>
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<td>agronomists to identify native species with the best erosion</td>
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<td>control properties, root strength, site adaptability, and other</td>
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<td>socially useful properties</td>
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<td>- If very steep sections cannot be avoided, provide soil</td>
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<td>stabilizers or surface with asphalt/concrete</td>
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<td>- Find alternative routing in case of unexpected exposition to</td>
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<td>external conditions that would put at stake the integrity of the</td>
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<td>road and endanger the users of the road.&quot;</td>
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<td>Community Health &amp; Safety</td>
<td>Implement good practices for traffic safety:</td>
<td>Observations</td>
<td>Contractor</td>
<td>Random site inspection</td>
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<td></td>
<td>Traffic Safety</td>
<td>- Schedule traffic activities to avoid peak hours on local roads if</td>
<td>Training attendance lists</td>
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<td>feasible.</td>
<td>Grievance Mechanism</td>
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<td>- Set traffic speed limits, verify drivers' behaviour with respect</td>
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<td>to driving speed and safety. Ensure safe driving by project</td>
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<td>personnel, e.g. through training/induction/incentives (best driver</td>
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<td>awards).</td>
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<td>- Avoid as much as possible driving at night.</td>
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<td>Biodiversity and Natural Habitats</td>
<td>Limit vegetation clearing to areas within the site boundary</td>
<td>Vegetation clearing minimal</td>
<td>Contractor</td>
<td>Random site inspection</td>
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<td>where it is absolutely necessary to reduce habitat disturbance.</td>
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<td>- Avoid clearing mature trees.</td>
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<td>- Ensure revegetation of cleared areas where possible after</td>
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<td>construction using native species.</td>
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<td>- Revegetate with recovered plants and other appropriate local flora</td>
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<td>Cultural Heritage</td>
<td>Ensure all chance finds of cultural heritage (e.g. graves, old ceramic, old building fragments) are reported immediately to the relevant authority. If possible, avoid excavation in the ultimate neighbourhood of a chance find, fence the chance find and await instructions from the competent authority. Contractors (and their supervisors) need to be aware on which authority is to be contacted in case of find. Contact numbers / addresses must be readily available.</td>
<td>Contractual documentation Chance finds records</td>
<td>Contractor/Implementing Partner</td>
<td>Random site inspection</td>
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|     | Operation                   | Implement good practices for traffic safety:  
- Provide speed bumps or similar device to reduce speed in villages or populated areas.  
- Implement a monitoring program that register places and nature of accidents and events triggering the integrity of the road and possible re-routing (such as landslides, rock falls, flooding, severe road damaging).  
- Dangers of the road must be communicated to users by adapting signage.  
|     | Biodiversity and Natural Habitats | - If pesticides are to be used for agriculture program or for right of way clearing, only those that are low in human toxicity, that are known to be effective against the target species, and that have minimal effects on non-target species and the environment shall be used. | Pesticide Specification sheet                     | Contractor            | Random site inspection |
ESMP for Power Transmission Projects

NB: the mitigation measures below are generic for power transmission projects. It is likely that most of roads and bridge new construction projects may be subject to a Rapid ESIA and will therefore need to elaborate a project specific list of mitigation measures.

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|     | E&S Risk Management Project sitting | Plan the trace to prevent damage on valuable ecosystems and habitats; on valuable historic, religious, cultural, archaeological and paleontological resources and on community lands and livelihoods  
- Avoid vegetation and forest clearance  
- Use as much as possible existing right-of-way (along existing road corridor  
- Aligning transmission corridors to avoid critical habitats (e.g. nesting grounds, heronries, rookeries, bat foraging corridors, and migration corridors)  
- Avoid known areas of historical/cultural/archaeological interest  
- Transmission lines of capacity 110kV and more should not pass above habitations | Design documents (feasibility study) | IP | Project planning documents |
| Preparation (conception, planning) | Project design | Ensure local communities are preferred for the supply of goods and services to the project and project personnel, where appropriate. If materials and competences are available locally, they should be sourced locally provided it does not disturb local economy. | Site observations | IP | Random site inspection |
| Project design | Consider all associated facilities throughout the E&S risk management activities, such as:  
- access roads needed for construction and maintenance  
- distribution network, transformers, substations  
- worker camps, material storage areas if any | Design documents (feasibility Studies) | IP | Project planning documents |
<p>| Indigenous People Stakeholder Engagement | Engage/communicate with communities and plan sufficient time for participation. Ensure regular consultations with the local authorities and communities regarding the management of construction. On-going consultation processes should identify marginalized groups, including indigenous people as per IFC definition. Use Appendix 1 to this ESMP. | Project Documentation Stakeholder Engagement Minutes | IP | Document review Grievance records |</p>
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<td>IP</td>
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<td>Occupational Health &amp; Safety</td>
<td>Sensitize Implementation Partners on OHS. Provide H&amp;S training to contractors and workers.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Consultant IP</td>
<td>Check Training records Check incidents reports</td>
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<td>Land Acquisition and Resettlement</td>
<td>Engage with communities and authorities at the earliest stage to understand the land ownership and land use. Engage with the local community and potential affected households to understand their needs and identify the risk of damage to their livelihood basis through the project (e.g. take of pastureland, lack of access to water).</td>
<td>Minutes of Meetings Grievance Mechanism records</td>
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<td>Land Acquisition and Resettlement</td>
<td>Should physical or economic displacement be inevitable (accidental situation), resettlement should be addressed according best practices mentioned in “Land Acquisition and Livelihood Restoration Framework” and KfW KCUS needs to be involved.</td>
<td>Minutes of Meetings Grievance Mechanism records Management Plan for Land Acquisition and Compensation if needed</td>
<td>IP</td>
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<td>Biodiversity and Natural Habitats</td>
<td>“Bird friendly design”: Minimise bird collision mortality: use visibility enhancement objects such as marker balls, bird deterrents, or diverters should help to prevent bird collision and mortality</td>
<td>Site Observations</td>
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<td>Labour Conditions</td>
<td>- Ensure minimum labour conditions (child labour, forced labour, non-discrimination) required by ILO Conventions. - Contribution from community in the form labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods.</td>
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<td>Inspection reports (also from labour authorities), Review of grievance register and training record</td>
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<td>Ensure the workforce has access to primary healthcare on site, providing prescriptions. - As a minimum, first aid kits need to be available on every construction site. - Emergency services (next hospital, health centre or doctor) needs to be identified and made available to workers in case of need. Should worker camps be requested, provide workers with acceptable housing conditions ensuring the provision of adequate space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, security and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services.</td>
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<td>Water harvesting conducted, No excavation during intense rainfall, Project application / Project concept</td>
<td>Contractor</td>
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<td>- Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters.</td>
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<td>- Carry out excavation works in cut off ditches to prevent water from entering excavations.</td>
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<td></td>
<td>Community Health &amp; Safety</td>
<td>Restrict access to construction sites to non-authorized persons</td>
<td>Access controlled</td>
<td>Implementing Partner</td>
<td>Random site inspection</td>
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<td>- Prevent physical access to the site fencing and/or guarding</td>
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<td>- Use appropriate signage</td>
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<td></td>
<td>- Inform site users, community leaders, authorities (informal/official) during stakeholder meetings about access restrictions</td>
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<td>Means of Verification</td>
<td>Responsibility</td>
<td>Monitoring procedure</td>
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</tbody>
</table>
|     | Community Health & Safety | Implement good practices for traffic safety:  
- Schedule traffic activities to avoid peak hours on local roads if feasible.  
- Set traffic speed limits, verify drivers’ behaviour with respect to driving speed and safety. Ensure safe driving by project personnel, e.g. through training/induction/incentives (best driver awards).  
- Avoid as much as possible driving at night.  
- Avoid off-road vehicle traffic. Use existing roads.  
- Avoid as much as possible driving at night. | Observations  
Training attendance lists  
Grievance Mechanism | Contractor | Random site inspection |
|     | Biodiversity and Natural Habitats | Implement good practices for natural habitats protection:  
- Schedule activities to avoid breeding and nesting seasons for any identified critically endangered or endangered wildlife species.  
- Use existing roads for access as much as feasible  
- Limit vegetation clearing to areas within the site boundary where it is absolutely necessary to reduce habitat disturbance.  
  - Avoid clearing mature trees.  
  - Ensure revegetation of cleared areas where possible after construction using native species.  
  - Revegetate with recovered plants and other appropriate local flora  
- Avoid using pesticides to perform vegetation clearance. | Vegetation clearing minimal | Contractor | Random site inspection |
|     | Cultural Heritage | Ensure all chance finds of cultural heritage (e.g. graves, old ceramic, old building fragments) are reported immediately to the relevant authority. If possible, avoid excavation in the ultimate neighborhood of a chance find, fence the chance find and await instructions from the competent authority. Contractors (and their supervisors) need to be aware on which authority is to be contacted in case of find. Contact numbers / addresses must be readily available. | Contractual documentation  
Chance finds records | Contractor/Implementing Partner | Random site inspection |
<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
<th>Measure</th>
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<th>Responsibility</th>
<th>Monitoring procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Minimise risks of electrocution for workers: only qualified personal equipped with adequate protection equipment can perform the maintenance works</td>
<td>Contractual documentation Site observation</td>
<td></td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td>Community Health and Safety</td>
<td>Avoid as possible use of hazardous substances such as wooden poles preservatives or PCB containing transformators</td>
<td>Contractual documentation Site observation</td>
<td>IP</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Community Health and Safety</td>
<td>Minimise risks of electrocution for community:</td>
<td></td>
<td>Contractor</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Access to climb electricity pylons needs to be restricted</td>
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<td></td>
<td>- Use of signs, barriers (e.g. locks on doors, use of gates, use of steel posts surrounding transmission towers, particularly in urban areas)</td>
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<td></td>
<td></td>
<td>- Education / public outreach to prevent public contact with potentially dangerous equipment</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Biodiversity and Natural Habitats</td>
<td>If pesticides are to be used for agriculture program or for right of way clearing, only those that are low in human toxicity, that are known to be effective against the target species, and that have minimal effects on non-target species and the environment shall be used.</td>
<td>Pesticide Specification sheet</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
</tbody>
</table>
## ANNEX D4

### ESMP for Water and Sanitation Projects

<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
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<th>Means of Verification</th>
<th>Responsibility</th>
<th>Monitoring procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preparation (conception, planning)</td>
<td>Project design</td>
<td>Design documents (feasibility Studies)</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
</tbody>
</table>
|     | Project design                   | Request all projects to include an education/awareness raising component to minimize the risks of contamination  
                                            Design the distribution system (tap) to prevent people from touching the water directly with their hands of mouth and sensitive people accordingly  
                                            Fence water distribution to prevent access to animals and eliminate risk of contamination by animal manure  
                                            For toilets and septic tanks evaluate the depth of groundwater table including seasonal fluctuations. Line the tanks with waterproofing material such as clay or plastic sheeting to prevent groundwater contamination  
                                            For dry and composting toilets, ensure sufficient residence time in maturation chambers, which can be as much as 18 months in cold climates  
                                            Ensure that toilets are properly operated so that the residues can be used for soil fertilization if foreseen.                                                                                          |                                                            |                |                                          |
<p>|     | Project design                   | Ensure local communities are preferred for the supply of goods and services to the project and project personnel, where appropriate. If materials and competences are available locally, they should be sourced locally provided it does not disturb local economy. | Site observations                                          | IP             | Random site inspection                   |</p>
<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
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<th>Responsibility</th>
<th>Monitoring procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indigenous People Stakeholder Engagement</td>
<td>Engage/ communicate with communities and plan sufficient time for participation. Ensure regular consultations with the local authorities and communities regarding the management of construction. On-going consultation processes should identify marginalized groups, including indigenous people as per IFC definition. <em>Use Appendix 1 to this ESMP.</em></td>
<td>Project Documentation Stakeholder Engagement Minutes</td>
<td>IP</td>
<td>Document review Grievance records</td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Sensitize Implementation Partners on OHS. Provide H&amp;S training to contractors and workers.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Consultant</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism in place and grievances recorded</td>
<td>Contractor</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td></td>
<td>Labour Conditions</td>
<td>Ensure minimum labour conditions (child labour, forced labour, non-discrimination) required by ILO Conventions. Contribution from community in the form labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods.</td>
<td>Grievance Mechanism</td>
<td>Contractor</td>
<td>Inspection reports (also from labour authorities), Review of grievance register and training record</td>
</tr>
<tr>
<td></td>
<td>Labour Conditions</td>
<td>Ensure the workforce has access to primary healthcare on site, providing prescriptions. As a minimum, first aid kits need to be available on every construction site. Emergency services (next hospital, health center or doctor) needs to be identified and made available to workers in case of need.</td>
<td>Observations Grievance Mechanism</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
<tr>
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<td>Measure</td>
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<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Provide H&amp;S training to contractors and workers on the main risks on workers’ health and safety</td>
<td>Minutes of Meeting</td>
<td>Contractor</td>
<td>Check Training records</td>
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<td></td>
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<td>related to work place (hazardous substance management, work at height, electric, traffic safety), the safe work practices, the emergency procedures and the requirement of incident reporting.</td>
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<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Record accidents and near misses continuously. Implement incentive programme for incident recording.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Contractor and IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
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<td></td>
<td></td>
<td>Monitor the security warnings and adapt a proactive attitude vis a vis security situation. Evacuate workers if necessary.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Contractor and IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
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<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Ensure the use of Personal Protective Equipment (PPE) tailored to the hazard exposed to for workers. As a minimum foot plus head, hand, ear, eyes protection, depending on working position.</td>
<td>Observations</td>
<td>Contractor</td>
<td>Random site inspections</td>
</tr>
<tr>
<td></td>
<td>Soil and groundwater contamination</td>
<td>Maintain high standards in housekeeping on site. Identify and store appropriately (define dedicated storage areas with secondary containment) all hazardous substances like fuel or chemicals and provide solutions to remediate unforeseen leakage and spills</td>
<td>Dedicated storage areas in place Waste Manifests</td>
<td>Contractor</td>
<td>Random site inspection, Review of waste inventories</td>
</tr>
<tr>
<td>Ph.</td>
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<td>Means of Verification</td>
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<td></td>
<td></td>
<td>Implement best practices for soil management</td>
<td>Topsoil stored and re-used</td>
<td>Contractor</td>
<td>Random site inspection</td>
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<td>- Ensure appropriate storing of topsoil removed. After construction topsoil will be used as backfill for restoration of the area.</td>
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<td>- Limit stockpile height to 2 m maximum to avoid soil compensation.</td>
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<td>- Reinstatement of construction working area to the best possible after construction activities are completed.</td>
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<td>- If construction takes place on inclined surfaces/slopes, ensure preventive erosion control measures are applied (e.g. plan to retain trees and other vegetation, use of natural contours for roads and drainage networks, excavated drainage channels).</td>
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<td></td>
<td>Soil Management</td>
<td>Water Resources Protection</td>
<td>Water harvesting conducted, No excavation during intense rainfall, Project application / Project concept</td>
<td>Contractor</td>
<td>Random site inspection, Project planning documents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implement best practices for water management</td>
<td>Water harvesting conducted, No excavation during intense rainfall, Project application / Project concept</td>
<td>Contractor</td>
<td>Random site inspection, Project planning documents</td>
</tr>
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<td>- Prioritise the use of rainwater/stormwater over surface water/groundwater abstraction by using harvesting equipment and systems on site.</td>
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<td>- Reuse wastewater wherever feasible.</td>
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<td>- Restrict excavation activities during periods of intense rainfall.</td>
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<td>- Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters.</td>
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<td>- Carry out excavation works in cut off ditches to prevent water from entering excavations.</td>
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<td>Water Resources Protection</td>
<td>Community Health &amp; Safety</td>
<td>Access controlled</td>
<td>Contractor</td>
<td>Random site inspection</td>
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<td>Contractor</td>
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<td>- Prevent physical access to the site fencing and/or guarding</td>
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<td>- Use appropriate signage</td>
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<td>- Inform site users, community leaders, authorities (informal/official) during stakeholder meetings about access restrictions</td>
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</table>
|     | Biodiversity and Natural Habitats | Limit vegetation clearing to areas within the site boundary where it is absolutely necessary to reduce habitat disturbance.  
- Avoid clearing mature trees.  
- Ensure revegetation of cleared areas where possible after construction using native species.  
- Revegetate with recovered plants and other appropriate local flora | Vegetation clearing minimal               | Contractor                  | Random site inspection |
|     | Community Health & Safety     | Ensure sustainable use of water resources  
- Request all projects to train users in leak detection and distribution system maintenance  
- Establish responsibilities for managing water distribution to enhance user ownerships and achieve sustainability* | Project application / Project concept      | IP             | Project planning documents |
| Operation | Community Health & Safety     | Ensure that water is proper to human consumption:  
- Ensure appropriate testing of surface and groundwater quality prior to use (bacteria, metals, other chemicals).  
- Ensure that all drinking water provided complies with national acceptability standards and WHO Drinking Water Guidelines.  
- Set up a continuous drinking water monitoring and management program; apply disinfection and treatment as needed* | Project application / Project concept      | IP             | Project planning documents |
ANNEX D5

ESMP for Landmine Clearance Projects

NB: it is assumed that for such projects the implementation partner is a specialised company that do not mobilize contractors.

<table>
<thead>
<tr>
<th>Ph.</th>
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<th>Responsibility</th>
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<tbody>
<tr>
<td></td>
<td>Stakeholder Engagement</td>
<td>Engage/ communicate with communities and plan sufficient time for participation. Ensure regular consultations with the local authorities and communities regarding the management of construction. <em>Use Appendix 1 to this ESMP.</em></td>
<td>Minutes of meetings</td>
<td>IP</td>
<td>Review of grievances register</td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP</td>
<td>Review of grievances register</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Only specialized firms internationally recognized and acting according international good practices such as United Nations Mine Action Service (UNMAS) shall be contracted.</td>
<td>Contractual documentation</td>
<td>PATRIP</td>
<td>Document review</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Sensitize Implementation Partners Provide H&amp;S training to contractors and workers.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Consultant IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td>Project Design Occupational Health &amp; Safety</td>
<td>Clearance work should be accompanied by sensitisation / training of community members on emergency preparedness in case of discovery of further landmines/UXO</td>
<td>Training records</td>
<td>IP</td>
<td>Check Training records Check incidents reports</td>
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<td>Measure</td>
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<td></td>
<td><strong>Implementation / Construction</strong></td>
<td><strong>Grievance Mechanism</strong> Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP</td>
<td>Review of grievances register</td>
</tr>
</tbody>
</table>
|     | **Labour Conditions**  | **Labour Conditions** Ensure minimum labour conditions  
- Children below 15 years are not allowed to be employed if the work prevents them to fully attend to school. Cumulated school and work time incl. transportation should not exceed 10 hours a day.  
- Children below 18 years are not allowed to perform work at night and works which are likely to jeopardise the health, safety or morals.  
- All work must be remunerated under the principle "equal pay for equal work" under the applicable remuneration standards of the country.  
- Employment relationships shall be based on principles of equal opportunity, fair treatment, and non-discrimination (e.g. due to gender, age or origin).  
- Contribution from community in the form of labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods.  
- Forced labour, including prison work, is not tolerable. | Grievance Mechanism          | IP            | Inspection reports (also from labour authorities), Review of grievance register and training record |
|     | **Labour Conditions**  | **Labour Conditions** Ensure the workforce has access to primary healthcare on site, providing prescriptions.  
- As a minimum, first aid kits need to be available on every construction site.  
- Emergency services (next hospital, health center or doctor) needs to be identified and made available to workers in case of need. | Observations Grievance Mechanism | IP            | Random site inspection                                |
<table>
<thead>
<tr>
<th>Ph.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Occupational Health &amp; Safety</strong></td>
<td>Provide H&amp;S training to contractors and workers on the main risks on workers’ health and safety related to work place (hazardous substance management, work at height, electric, traffic safety), the safe work practices, the emergency procedures and the requirement of incident reporting.</td>
<td>Minutes of Meetings</td>
<td>IP</td>
<td>Check Training records</td>
</tr>
<tr>
<td></td>
<td><strong>Occupational Health &amp; Safety</strong></td>
<td>Record continuously accidents, near misses and factors constituting unplanned dangerous situations. Implement incentive programme for incident recording.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td><strong>Occupational Health &amp; Safety</strong></td>
<td>Monitor the security warnings and adapt a proactive attitude vis-a-vis security situation. Evacuate personal if necessary.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>IP</td>
<td>Check Training records Check incidents reports</td>
</tr>
<tr>
<td></td>
<td><strong>Occupational Health &amp; Safety</strong></td>
<td>Ensure the use of Personal Protective Equipment (PPE) tailored to the hazard exposed to for workers.</td>
<td>Observations</td>
<td>IP</td>
<td>Random Site inspection</td>
</tr>
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<td></td>
<td><strong>Soil and groundwater contamination</strong></td>
<td>If landmines are destroyed on-site (detonator, dismantled, and explosive burned out) it must happen on a capped surface (concrete) to prevent soil and water contamination through hazardous substances.</td>
<td>Dedicated storage areas in place</td>
<td>IP</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td><strong>Community Health &amp; Safety</strong></td>
<td>Restrict access to construction sites to non-authorized persons - Prevent physical access to the site fencing and/or guarding - Use appropriate signage - Inform site users, community leaders, authorities (informal/official) during stakeholder meetings about access restrictions</td>
<td>Access controlled</td>
<td>IP</td>
<td>Random site inspection</td>
</tr>
<tr>
<td>Ph.</td>
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<tr>
<td></td>
<td>Community Health &amp; Safety</td>
<td>In case of security personnel at the site, ensure that they are properly trained in the use of force and appropriate conduct toward workers and affected communities</td>
<td>Subcontractor Qualifications, Training Records</td>
<td>IP</td>
<td>Review of training records and grievance register</td>
</tr>
<tr>
<td></td>
<td>Community Health &amp; Safety</td>
<td>The contractor must ensure that the landmines are not available for reuse. Landmines must preferably be exploded or destroyed on-site. If landmines and UXO are collected, use containers that are not accessible to the public.</td>
<td>Dedicated storage areas in place</td>
<td>IP</td>
<td>Random site inspection</td>
</tr>
</tbody>
</table>
# ANNEX D6

## ESMP for Irrigation & Agriculture Projects

<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
<th>Measure</th>
<th>Means of Verification</th>
<th>Responsibility</th>
<th>Monitoring procedure</th>
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<tbody>
<tr>
<td></td>
<td>E&amp;S Risk Management Project sitting</td>
<td>Plan the project in a way to avoid: - existing agricultural lands and grazing areas - Environmentally sensitive areas, such as wetlands, and places near protected areas (buffer zones) or underrated forests - Crossing critical aquatic habitat (e.g. watercourses, wetlands, and riparian areas), as well as fish spawning habitat, and critical fish over-wintering habitat - Known areas of historical/cultural/archaeological interest - Rivers and streams as well as flooded areas (consider seasonal variations) - Long downhill stretches and slopes above 10%. When possible, the irrigation infrastructure/channel should follow hill contours</td>
<td>Design documents (feasibility studies/assessment)</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
<tr>
<td>Preparation (conception, planning)</td>
<td>E&amp;S Risk Management Project sitting</td>
<td>Build as far as practical influence areas such as neighbours’ community houses and sensible receptors (schools, hospitals) to avoid infiltration. Plan the project to avoid areas environmental sensible, prone to natural disasters or places of cultural and social interest. Plan the project so that land acquisition or impact on livelihoods is avoided.</td>
<td>Project application / Project concept</td>
<td>IP</td>
<td>Construction reports</td>
</tr>
<tr>
<td>Project sitting</td>
<td></td>
<td>Identify risks linked to the previous use of the site, such as soil accumulation in the water channels and contaminations. Contamination removed before construction can start. Plan to prevent soil accumulation and develop excavation plan as part of the rehabilitation program</td>
<td>Project application</td>
<td>IP</td>
<td>Construction reports</td>
</tr>
<tr>
<td>Project design</td>
<td></td>
<td>Request all projects to include an education/awareness raising component to minimize the risks of contamination from use of pesticides and other sources; Clearly design the water distribution system for irrigation so that the downstream water users and natural habitat is not negatively effect;</td>
<td>Design documents (feasibility Studies)</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
<td>Responsibility</td>
<td>Monitoring procedure</td>
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</table>
|     | Project design | - Apply low-maintenance solutions in the design of the irrigation infrastructure/water channels/ e.g. based on other irrigation infrastructure of the same type in the region.  
- Ensure that key/routine maintenance and operations can be implemented by the community/beneficiaries. Community and/or legal social structures are established and their capacity is built to take over the maintenance and operation of the irrigation infrastructure such as Water User Associations (WUA) | Project application / Project concept | IP | Construction reports |
|     | Project design | Ensure local communities are preferred for the supply of goods and services to the project and project personnel, where appropriate. If materials and competences are available locally, they should be sourced locally provided it does not disturb local economy. | Site observations | IP | Random site inspection |
|     | Project design | - Include provisions for maintenance of irrigation channels/infrastructure and drainage system. The maintenance requirements should be doable in the local context (either by authorities or by communities). Finalize maintenance agreements with local communities before construction. | Design documents (feasibility Studies) | IP and recipient of project | Project planning documents |
|     | Project design | All irrigation infrastructure projects, including upgrade and rehabilitation of channels, construction of new irrigation infrastructure need to undergo a feasibility study / engineering study by qualified engineers to consider best technical practices.  
- Ensure that a drainage system is included in the design to prevent leakage of used water in the clean sources and minimise erosion. | Design documents (feasibility Studies) | IP | Project planning documents |
<p>|     | Indigenous People Stakeholder Engagement | Engage/communicate with communities and plan sufficient time for participation. Ensure regular consultations with the local authorities and communities regarding the management of construction. Use Appendix 1 to this ESMP. On-going consultation processes should identify marginalized groups, including indigenous people as per IFC definition | Project Documentation Stakeholder Engagement Minutes | IP | Document review Grievance records |</p>
<table>
<thead>
<tr>
<th>Ph.</th>
<th>Topic</th>
<th>Measure</th>
<th>Means of Verification</th>
<th>Responsibility</th>
<th>Monitoring procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td></td>
<td>Occupational Health &amp; Safety</td>
<td>Sensitize Implementation Partners on OHS. Provide H&amp;S training to contractors and workers.</td>
<td>Trainings record. Incident documentation. Project reporting.</td>
<td>Consultant IP</td>
<td>Check Training records. Check incidents reports</td>
</tr>
<tr>
<td></td>
<td>Project design / Land Acquisition and Resettlement</td>
<td>Engage with communities and authorities at the earliest stage to understand the land ownership and land use. Engage with the local community and potential affected households to understand their needs and identify the risk of damage to their livelihood basis through the project (e.g. take of pasture land, lack of access to water).</td>
<td>Minutes of Meetings Grievance Mechanism records</td>
<td>IP</td>
<td>Project planning documents</td>
</tr>
<tr>
<td></td>
<td>Land Acquisition and Resettlement</td>
<td>Should physical or economic displacement be inevitable (accidental situation), resettlement should be addressed according best practices mentioned in “Land Acquisition and Livelihood Restoration Framework” and KfW KCUS needs to be involved.</td>
<td>Minutes of Meetings Grievance Mechanism records</td>
<td>IP</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td></td>
<td>Project sitting and design Natural Habitats / Biodiversity</td>
<td>Minimise impacts on flora/fauna - Consider the need of surrounding natural habitat and plan appropriately not to disturb the aquatic ecosystem/habitat, especially fish and associated flora and fauna when fetching/extracting water from sources through approved methods Schedule activities to avoid breeding and nesting seasons for any identified critically endangered or endangered aquatic ecosystem and wildlife species.</td>
<td>Site Observations</td>
<td>Contractor</td>
<td>Site inspections</td>
</tr>
<tr>
<td></td>
<td>Grievance Mechanism</td>
<td>Document all grievances from workers, communities and other stakeholders formulated on a register along with the responses given. Anonymity, if required, shall be guaranteed.</td>
<td>Grievance Mechanism</td>
<td>IP Contractor</td>
<td>Review of grievance register</td>
</tr>
<tr>
<td>Ph.</td>
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|     | Labour Conditions         | - Ensure minimum labour conditions (child labour, forced labour, non-discrimination) required by ILO Conventions.  
- Contribution from community in the form labour is allowed, provided that contribution is voluntary and does not negatively affect livelihoods. | Grievance Mechanism            | Contractor      | Inspection reports (also from labour authorities), Review of grievance register and training record |
|     | Labour Conditions         | Ensure the workforce has access to primary healthcare on site, providing prescriptions.  
- As a minimum, first aid kits need to be available on every construction site.  
- Emergency services (next hospital, health center or doctor) needs to be identified and made available to workers in case of need. | Observations Grievance Mechanism | Contractor      | Random site inspection                                                                   |
|     | Occupational Health & Safety | Provide H&S training to contractors and workers on the main risks on workers’ health and safety related to work place (hazardous substance management, work at height, electric, traffic safety), the safe work practices, the emergency procedures and the requirement of incident reporting. | Minutes of Meetings           | Contractor      | Check Training records                                                                 |
|     | Occupational Health & Safety | Record accidents and near misses continuously. Implement incentive programme for incident recording. | Trainings record. Incident documentation. Project reporting. | Contractor    | Check Training records  
Check incidents reports                                                               |
|     | Occupational Health & Safety | Monitor the security warnings and adapt a proactive attitude vis a vis security situation. Evacuate workers if necessary. | Trainings record. Incident documentation. Project reporting. | Contractor      | Check Training records  
Check incidents reports                                                               |
<p>|     | Occupational Health &amp; Safety | Ensure the use of Personal Protective Equipment (PPE) tailored to the hazard exposed to for workers. As a minimum foot plus head, hand, ear, eyes protection, depending on working position. | Observations                   | Contractor      | Random site inspection                                                                  |</p>
<table>
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<th>Responsibility</th>
<th>Monitoring procedure</th>
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<tbody>
<tr>
<td></td>
<td>Emissions (dust, noise, gases)</td>
<td>Reduce source of dust emissions at construction sites by</td>
<td>Observations</td>
<td>Contractor</td>
<td>Random site inspection, inspection of roads</td>
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<td></td>
<td></td>
<td>- watering of transportation roads during dry and windy conditions. Generally, keep roads in</td>
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<td>good condition. Cover truck loads with canvas to avoid dust blow.</td>
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<td>- Minimising drop heights for material transfer activities such as unloading of friable</td>
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<td>materials. Cover stockpiles when not used.</td>
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<td></td>
<td>- Using equipment and vehicles in appropriate technical conditions. Provide emissions control</td>
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<td>equipment where applicable (e.g. filters). Use low sulphur content fuels, in line with legal</td>
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<td></td>
<td>provisions in force as well as local availability. Ensure vehicles and equipment are switched</td>
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<td>off when not in use.</td>
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<td></td>
<td>Noise and vibration impacts</td>
<td>Reduce noise and vibration impacts during construction.</td>
<td>No work conducted between</td>
<td>Contractor</td>
<td>Random site inspection, Review of filed grievances, review of timesheets of workers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Limit the hours of operation for specific pieces of equipment or operations, especially</td>
<td>10pm and 7 am / Grievance</td>
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<td>mobile sources operating through community areas or close to residential houses (typically</td>
<td>Mechanism</td>
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<td>between 10 pm and 7 am). Avoid vehicle movements at night.</td>
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<td>- Use of state-of-the-art technology and limit the number of machines operated simultaneously.</td>
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<td>- Ensure the use of modern and well-maintained equipment (e.g. use of silencers).</td>
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<td></td>
<td>Soil and groundwater contamination</td>
<td>Maintain high standards in housekeeping on site.</td>
<td>Dedicated storage areas in</td>
<td>Contractor</td>
<td>Random site inspection, Review of waste inventories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Identify and store appropriately (define dedicated storage areas with secondary containment)</td>
<td>place</td>
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<td></td>
<td></td>
<td>all hazardous substances like fuel or chemicals and provide solutions to remediate unforeseen</td>
<td>Waste Manifests</td>
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<td></td>
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<td>leakage and spills.</td>
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<td>Enforce appropriate waste management practices:</td>
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<td>- Give priority to reuse of waste material upon disposal. Use licensed waste contractor as</td>
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<td></td>
<td></td>
<td>feasible and relevant.</td>
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<td></td>
<td>- Collect and segregate wastes and ensure safe storage and in line with legal requirements.</td>
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<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
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<td>Monitoring procedure</td>
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<tr>
<td></td>
<td>Soil Management</td>
<td>Implement best practices for soil management - Ensure appropriate storing of topsoil removed. After construction, topsoil will be used as backfill for restoration of the area or in the agricultural field. - Limit stockpile height to 2 m maximum to avoid soil compensation. - Reinstatement of construction working area to the best possible after construction activities are completed. If construction takes place on inclined surfaces/slopes, ensure preventive erosion control measures are applied (e.g. plan to retain trees and other vegetation, use of natural contours along the channels to stabilise the slopes).</td>
<td>Topsoil stored and re-used</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Water Resources Protection</td>
<td>Implement best practices for water management - Prioritise the use of rainwater/stormwater over surface water/groundwater abstraction by using harvesting equipment and systems on site. - Reuse wastewater wherever feasible. - Restrict excavation activities during periods of intense rainfall. Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters. - Carry out excavation works in cut off ditches to prevent water from entering excavations.</td>
<td>Water harvesting conducted, No excavation during intense rainfall, Project application / Project concept</td>
<td>Contractor</td>
<td>Random site inspection, Project planning documents</td>
</tr>
<tr>
<td></td>
<td>Community Health &amp; Safety</td>
<td>Implement good practices for traffic safety: - Schedule traffic activities to avoid peak hours on local roads if feasible. - Set traffic speed limits, verify drivers’ behaviour with respect to driving speed and safety. Ensure safe driving by project personnel, e.g. through training/induction/incentives (best driver awards). - Avoid as much as possible driving at night.</td>
<td>Observations Training attendance lists Grievance Mechanism</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Community Health &amp; Safety</td>
<td>Restrict access to construction sites to non-authorized persons - Prevent physical access to the site fencing and/or guarding - Use appropriate signage - Inform site users, community leaders, authorities (informal/official) during stakeholder meetings about access restrictions</td>
<td>Access controlled</td>
<td>Implementing Partner</td>
<td>Random site inspection</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
<td>Means of Verification</td>
<td>Responsibility</td>
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<tr>
<td></td>
<td>Community Health &amp; Safety</td>
<td>In case of security personnel at the site, ensure that they are properly trained in the use of force and appropriate conduct toward workers and affected communities</td>
<td>Contractor Qualifications, Training Records</td>
<td>Implementing Partner</td>
<td>Review of training records and grievance register</td>
</tr>
<tr>
<td></td>
<td>Biodiversity and Natural Habitats</td>
<td>Limit vegetation clearing to areas within the site boundary where it is absolutely necessary to reduce habitat disturbance. - Avoid clearing mature trees. - Ensure revegetation of cleared areas where possible after construction using native species. Revegetate with recovered plants and other appropriate local flora</td>
<td>Vegetation clearing minimal</td>
<td>Contractor</td>
<td>Random site inspection</td>
</tr>
<tr>
<td></td>
<td>Cultural Heritage</td>
<td>If found any cultural heritage (e.g. graves, old ceramic, old building fragments) in case of new construction of irrigation infrastructure ensure to report immediately to the relevant authority. If possible, avoid excavation in the ultimate neighbourhood of a chance find, fence the chance find and await instructions from the competent authority. Contractors (and their supervisors if foreseen to implement through contractors) need to be aware on which authority is to be contacted in case of find. Contact numbers / addresses must be readily available.</td>
<td>Contractual documentation Chance finds records</td>
<td>Contractor / Implementing Partner</td>
<td>Random site inspection</td>
</tr>
</tbody>
</table>
Increased usage of chemical in agriculture has increased the potential for surface and groundwater contamination risk as a result of improper storage of chemical residue, rinse water, and unused chemicals and the improper disposal of empty containers. Governmental regulations should be considered before planning any chemical handling system.

- Manage the run off chemicals and solids
- Collected waste material should be disposed of according to the Governmental guidelines.
- Precaution should be taken to prevent animals and children from gaining access to such facilities.
- Accurate determination of the amount of pesticide solution needed.
- Chemical containers burial is practical only in locations where the burial site will always be above the groundwater level.

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<tr>
<th>Ph.</th>
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<th>Means of Verification</th>
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<th>Monitoring procedure</th>
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<tbody>
<tr>
<td>Operation</td>
<td>Waste Management</td>
<td>Increased usage of chemical in agriculture has increased the potential for surface and groundwater contamination risk as a result of improper storage of chemical residue, rinse water, and unused chemicals and the improper disposal of empty containers. Governmental regulations should be considered before planning any chemical handling system. - Manage the run off chemicals and solids - Collected waste material should be disposed of according to the Governmental guidelines. - Precaution should be taken to prevent animals and children from gaining access to such facilities. - Accurate determination of the amount of pesticide solution needed. - Chemical containers burial is practical only in locations where the burial site will always be above the groundwater level.</td>
<td>Waste management procedure in place</td>
<td>IP and users</td>
<td>Review of procedure, Random site inspection</td>
</tr>
<tr>
<td>Ph.</td>
<td>Topic</td>
<td>Measure</td>
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</table>
|     | Biodiversity and Natural Habitats | It is important that pesticide chemicals and spray equipment be safely and securely stored. They should be stored in a separate shed or at least in a separated and locked place. The shed or storage area must be well away from residence and must only be used for equipment and maintenance materials. It must never be used for food storage. The storage shed should:  
• be constructed of fire resistant materials  
• be well ventilated  
• be secure and lockable  
• have water available  
• have a floor that can be washed if spills occur.  
• have a drain system and disposal area with a pit nearby so that any excess or spilled materials can be washed down and drained away.  
• be labelled clearly on the outside that there are dangerous materials stored inside  
There are rules which should be followed for the safe storage of pesticides in the shed.  
- training should be organized for the farmers on the safe use of pesticides and fertilizers;  
- ensure proper plan for Integrated Pest Management is considered;  
- ensure farmers are aware of preferring use of organic fertilizers then chemicals and benefits of organic production |
|     | Community Health & Safety      | Ensure sustainable use of water resources  
- Request all projects to train users in distribution system maintenance make sure appropriate drainage system is available to prevent leakage to the clean water source  
- Establish responsibilities for managing water distribution to enhance user ownerships and equal access to up and down water users and promotion of efficient irrigation technology such as drip and sprinkler irrigation. |

<table>
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<tr>
<th>Means of Verification</th>
<th>Responsibility</th>
<th>Monitoring procedure</th>
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</thead>
<tbody>
<tr>
<td>Site visits observation</td>
<td>IP</td>
<td>Community liaison Random site inspection</td>
</tr>
<tr>
<td>Project application / Project concept</td>
<td>IP</td>
<td>Project planning documents</td>
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</tbody>
</table>
Appendix 1 – Generic Stakeholder Engagement Plan

The Implementation Partner should keep records of all stakeholder activities carried out throughout the project, as defined in the Screening Checklist and ESMP. The purpose of stakeholder engagement is to allow for stakeholders to interact with the decision making process, express their views and influence mitigation and technical solutions to concerns voiced during the process.

*Mention here the project specific activities that require stakeholder engagement actions e.g., community H&S risks, community workforce flux, community participation, temporary disruptions, public information and disclosure, impacts on the community, workers’ camp etc.*

**Engagement Activities**

During preparation of this project (project preparation and ESA preparation) following activities were organised to disclose information and engage with stakeholders:

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Date</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who? Communities, Authorities (official/traditional), NGOs,</td>
<td>When?</td>
<td>How? Interviews, public consultation, grievance mechanism</td>
</tr>
<tr>
<td>30 persons representatives of village XY</td>
<td>2nd January 2018</td>
<td>Public consultation including presentation of project and Q&amp;A session</td>
</tr>
<tr>
<td>Road ad Transport District Director</td>
<td>3rd January 2018</td>
<td>Individual interview by IP</td>
</tr>
</tbody>
</table>

Any entries in the grievance mechanisms should be reviewed by the consultant for the ESA preparation and listed in the next section.

**Key Findings**

Following concerns and suggestions were identified within stakeholder engagement and will be considered by the implementation partner and/or its contractor(s) if any:

<table>
<thead>
<tr>
<th>Concern/Suggestion</th>
<th>Stakeholder</th>
<th>Responses by the Project</th>
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</thead>
<tbody>
<tr>
<td>What?</td>
<td>Who?</td>
<td>How the project will respond to that</td>
</tr>
<tr>
<td>What?</td>
<td>Who?</td>
<td>How the project will respond to that</td>
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</tbody>
</table>
Appendix 2 - (Example of a) Construction Contractor Code of Conduct

To be elaborated by the contractors and translated into local language and communicated appropriately to workers and communities

<Name of the Company> requires that all personnel comply by the following Site Code of Conduct at all times while on the work site, at the camp or travelling to and from work sites.

Commitment of Management:

- The Management ensures that all staff is treated with dignity, respect and justice. All of us ensure that we treat other people in the same way. The Management ensures that all staff is not discriminated based on gender, race, religion, age, disability, sexual orientation, nationality, political opinion or ethnic origin. All of us ensure that we do not discriminate others for these reasons.

- The Management commits not to permit any form of violence, harassment or abuse in the workplace or by project staff in local community.

- The Management commits to provide a secure place to work for the persons on site and for the local community.

- Together with the Workers, the Management established this Code of Conduct and will enforce it. If we are aware of a break of this Code of Conduct, we will investigate in a fair and confidential manner assuming innocence until guilt is proven.

Commitment of Management and Workers:

- We, workers are guest in the local community and as such, we will respect our:
  - Not harass other by words or acts;
  - Not act violently toward anyone;
  - Not buy, sell or carry illegal substances, weapons and firearms;
  - Not hunt, fish or trade in wild animals;
  - Not create nuisance or disturbance to near communities, which includes playing loud music, wearing unappropriated clothing, have poor personal hygiene, consume alcohol in public places, use pornographic material, gamble etc.

- We all recognise and respect the local culture, lifestyle and heritage of the communities and we will act accordingly.

- We will stay on the site and go in the communities only if permitted by them and the Management. We are committed to have good relationships with our neighbours and respect their privacy.

Implementation of Code of Conduct:

- Management and Workers commit to actively ensure compliance with this Code of Conduct. Should we become aware of non-compliance, then we will report it. We will act honestly and fair with such cases.
• We all accept that if we are proven to have broken this Code of Conduct we are subject to disciplinary sanctions including termination of our employment at site or with the employer in accordance with laws and regulations of (project Country).

(Signed by Management and Workers Representatives)
Appendix 3 – Medical Waste Management Plan

1 INTRODUCTION

The Implementing Partner <Name> is planning to operate a <Name intervention, e.g. XYZ health facility in XYZ town> (“the project”). The project is located in <Name of location/village/country>.

This document represents the Medical Waste Management Plan (MWMP) for the project.

1.1 BACKGROUND AND OBJECTIVE OF THIS MWMP

Improper management of medical waste poses a significant risk to patients, health-care workers, the community and the environment. Thus proper management of medical waste is an important part of the overall management of Environmental, Health and Safety (EHS) risks and impacts of the project.

According to the World Health Organization (WHO) medical waste refers to the entirety of waste generated by health care and medical research facilities and laboratories. According to this definition medical waste includes but is not limited to:

- **infectious waste**: waste contaminated with blood and other bodily fluids (e.g. from discarded diagnostic samples), cultures and stocks of infectious agents from laboratory work (e.g. waste from autopsies and infected animals from laboratories), or waste from patients in isolation wards and equipment (e.g. swabs, bandages and disposable medical devices);

- **pathological waste**: human tissues, organs or fluids, body parts and contaminated animal carcasses;

- **sharps**: syringes, needles, disposable scalpels and blades, etc.;

- **chemicals**: for example solvents used for laboratory preparations, disinfectants, and heavy metals contained in medical devices (e.g. mercury in broken thermometers) and batteries;

- **pharmaceuticals**: expired, unused and contaminated drugs and vaccines;

- **genotoxic waste**: highly hazardous, mutagenic, teratogenic or carcinogenic, such as cytotoxic drugs used in cancer treatment and their metabolites;

- **radioactive waste**: such as products contaminated by radionuclides including radioactive diagnostic material or radiotherapeutic materials; and

- **non-hazardous or general waste**: waste that does not pose any particular biological, chemical, radioactive or physical hazard.

Kitchen waste and general waste from patients and visitors is not classified as medical waste.

This MWMP’s overall objective is to prevent and/or mitigate the negative EHS effects of medical waste. Medical Waste must be managed in a safe manner to prevent the spread of infection and reduce the exposure of health workers, patients and the public to the risks from medical waste. The plan includes advocacy for good practices in medical waste management and is to be used by health, sanitary and cleaning workers who manage medical waste.
1.2  **PROJECT DESCRIPTION**

Include a short project description based on available documentation and site observations (in alignment with the overall project Environmental and Social Management Plan (ESMP), if existent) including project Context and project Activities of the Health Facility.

2  **MEDICAL WASTE MANAGEMENT PLAN**

2.1  **WASTE MINIMIZATION, REUSE, AND RECYCLING**

Waste reduction, reuse and recycling are the first steps that should always be considered as a first step. Facilities should consider practices and procedures to minimize waste generation, without sacrificing patient hygiene and safety considerations, including:

- **Source reduction measures:**
  - Consider options for product / material substitution to avoid products containing hazardous materials that require the product to be disposed as hazardous or special waste (e.g. mercury or aerosol cans), and preferring products with less packaging or products that weigh less than comparable products that perform the same function
  - Use of physical rather than chemical cleaning practices (e.g. using microfiber mops and cloths), where such practices do not affect disinfection and meet relevant standards for hygiene and patient safety.

- **Waste toxicity reduction measures:**
  - Consider options for product / material substitution for equipment containing mercury or other hazardous chemicals; products that may become hazardous waste when disposed; products made of polyvinyl chloride (PVC6); halogenated compounds; products that off-gas volatile organic compounds (VOCs), or products that contain persistent, bioaccumulative and toxic (PBT) compounds; products that contain substances which are carcinogenic, mutagenic or reproductive toxins (CMR)
  - Use of efficient stock management practices and monitoring (e.g. for chemical and pharmaceutical stocks), including:
    - Small / frequent orders for products that spoil quickly and strict monitoring of expiry dates
    - Complete use of old product before new stock is used

- **Reuse of equipment following sterilization and disinfection**

2.2  **STORAGE OF CONSUMABLE MATERIALS AND VACCINATIONS**

*Delete this Chapter if not applicable*

Medical products need storage in an access-controlled environment. It is important to identify products that are at risk of theft or abuse or have the potential for addiction, and to provide...
increased security for those items. This includes products that are in high demand or have the potential for resale (black market value).

2.2.1 Vaccine Storage and Handling

Exposure of vaccines to temperatures outside the recommended ranges can decrease their potency and reduce the effectiveness and protection they provide. Storage and handling errors can cost thousands of dollars in wasted vaccine and revaccination, and create medical waste. Vaccine management, including proper storage and handling procedures, is the basis on which good immunization practices are built. Vaccines must be stored properly from the time they are manufactured until they are administered. Assuring vaccine quality and maintaining the cold chain is a shared responsibility among manufacturers, distributors, public health staff, and health-care providers. A proper cold chain is a temperature-controlled supply chain that includes all equipment and procedures used in the transport and storage and handling of vaccines from the time of manufacture to administration of the vaccine. By following a few simple steps and implementing best storage and handling practices, providers can ensure that patients will get the full benefit of vaccines they receive.

2.2.2 Storage and Handling Plans

Every facility should have detailed written protocols for routine and emergency vaccine storage and handling and they should be updated annually. These policies and procedures should be available in writing as a reference for all staff members and easily accessible. A routine storage and handling plan provides guidelines for daily activities, such as:

- Ordering and accepting vaccine deliveries
- Storing and handling vaccines
- Managing inventory
- Managing potentially compromised vaccines

Every facility should also have an emergency vaccine retrieval and storage plan. The plan should identify a back-up location where the vaccines can be stored. Considerations when choosing this site include appropriate storage units, temperature monitoring capability, and a back-up generator that can maintain power to the vaccine storage units. Potential back-up locations might include a local hospital, pharmacy, long-term care facility, or the Red Cross. There should be an adequate supply of packing materials and portable refrigerators and freezers or qualified containers and packouts on hand. Power outages or natural disasters are not the only events that can compromise vaccine. Forgotten vials of vaccine left out on the counter or doses of vaccine stored at improper temperatures due to a storage unit failure are other examples of how vaccines can be potentially compromised. Contact the local or state health department immunization program, vaccine manufacturer(s), or both for appropriate actions or guidelines that should be followed for all potentially compromised vaccines. Do not discard vaccines unless directed to by the immunization program and/or the manufacturer.
2.3 **Measures to Prevent/Reduce Exposure to Infections/Diseases**

Health care providers and personnel may be exposed to general infections, blood-borne pathogens, and other potential infectious materials (OPIM) during care and treatment, as well as during collection, handling, treatment, and disposal of health care waste. The following measures are recommended to reduce the risk of transferring infectious diseases to health care providers:

- Formulate an exposure control plan for blood-borne pathogens;
- Provide staff members and visitors with information on infection control policies and procedures;
- Establish Universal / Standard Precautions to treat all blood and other potentially infectious materials with appropriate precautions, including:
  - Immunization for staff members as necessary (e.g. vaccination for hepatitis B virus)
  - Use of gloves, masks, and gowns
  - Adequate facilities for hand washing. Hand washing is the single most important procedure for preventing infections (e.g. nosocomial and community). Hand washing should involve use of soap / detergent, rubbing to cause friction, and placing hands under running water. Washings of hands should be undertaken before and after direct patient contacts and contact with patient blood, body fluids, secretions, excretions, or contact with equipment or articles contaminated by patients. Washing of hands should also be undertaken before and after work shifts; eating; smoking; use of personal protective equipment (PPE); and use of bathrooms. If hand washing is not possible, appropriate antiseptic hand cleanser and clean cloths / antiseptic towelettes should be provided. Hands should then be washed with soap and running water as soon as practical.
  - Appropriate cleaning and waste disposal practices for the health care workplace
- The following recommendations should be implemented when using and handling of needles / sharps:
  - Use safer needle devices and needleless devices to decrease needle stick or other sharps exposures.
  - Do not bend, recap, or remove contaminated needles and other sharps unless such an act is required by a specific procedure or has no feasible alternative
  - Do not shear or break contaminated sharps
  - Have needle containers available near areas where needles may be found
  - Discard contaminated sharps immediately or as soon as feasible into appropriate containers
  - Used disposable razors should be considered contaminated waste and disposed of in appropriate sharps containers
• Establish policies to exclude animals from facility property.

2.4 GENERAL WASTE MANAGEMENT

2.4.1 Waste Segregation Strategies

At the point of generation, waste should be identified and segregated (refer to general Waste Management Plan for the project if available). Non-hazardous waste, such as paper and cardboard, glass, aluminum and plastic, should be collected separately and recycled. Food waste should be segregated and composted. Infectious and / or hazardous wastes should be identified and segregated according to its category using a color-coded system. If different types of waste are mixed accidentally, waste should be treated as hazardous. Other segregation considerations include the following:

• Avoid mixing general health care waste with hazardous health care waste to reduce disposal costs;

• Segregate waste containing mercury for special disposal.

• Management of mercury containing products and associated waste should be conducted as part of a plan involving specific personnel training in segregation and clean up procedures;

• Segregate waste with a high content of heavy metals (e.g. cadmium, thallium, arsenic, lead) to avoid entry into wastewater streams;

• Separate residual chemicals from containers and remove to proper disposal containers to reduce generation of contaminated wastewater. Different types of hazardous chemicals should not be mixed;

• Establish procedures and mechanisms to provide for separate collection of urine, feces, blood, vomits, and other wastes from patients treated with genotoxic drugs. Such wastes are hazardous and should be treated accordingly

• Aerosol cans and other gas containers should be segregated to avoid disposal via incineration and related explosion hazard;

• Segregate health care products containing PVC to avoid disposal via incineration or in landfills

2.4.2 On-site Handling, Collection, Transport and Storage

Dealing and handling waste on the project site should follow the following considerations:

• Seal and replace waste bags and containers when they are approximately three quarters full bags and containers should be replaced immediately;

• Identify and label waste bags and containers properly prior to removal;

• Transport waste to storage areas on designated trolleys / carts, which should be cleaned and disinfected regularly;
• Waste storage areas should be located within the facility and sized to the quantities of waste generated, with the following design considerations:
  - Hard, impermeable floor with drainage, and designed for cleaning / disinfection with available water supply
  - Secured by locks with restricted access
  - Designed for access and regular cleaning by authorized cleaning staff and vehicles
  - Protected from sun, and inaccessible to animals / rodents
  - Equipped with appropriate lighting and ventilation
  - Segregated from food supplies and preparation areas
  - Equipped with supplies of protective clothing, and spare bags / containers

• Store mercury separately in sealed and impermeable containers in a secure location;
• Store cytotoxic waste separately from other waste in a secure location;
• Store radioactive waste in containers to limit dispersion, and secure behind lead shields.

2.5 SPECIAL CONSIDERATIONS FOR MEDICAL WASTE

Medical waste poses a special risk to the personnel handling it. Thus special considerations need to be taken into account.

2.5.1 Handling Safety Measures

Personnel handling waste will follow the following safety measures:

• Never use hands to compress waste into containers
• Hold plastic bags at the top
• Keep bags from touching or brushing against the body while lifting or during transport
• All personnel handling infectious medical waste shall wear gloves and additional protective medical clothing and personal protective equipment (PPE) appropriate to the level of risk they encounter and shall remove any protective medical clothing used prior to leaving the work area and to place it in a designated area or container.
• Wear heavy-duty or utility gloves when handling and transporting solid wastes.
• Wearing glasses if you are working with material that may splash into your face or eyes
• When performing procedures where splashing is not expected, gloves are the minimum PPE that may be worn;
• Dispose of solid wastes by placing them in a plastic or galvanized metal container with a tight-fitting cover. Never recap needles after use.
• Collect the waste containers on a regular basis and transport the burnable ones to the incinerator or area for burning.
• If incineration is not available or waste is non-burnable, bury it.
• Remove utility gloves (wash daily or when visibly soiled and dry).
• Wash and dry hands or use an antiseptic hand rub as described above.
• Disposing of waste into designated containers as soon as it is generated
• Wearing boots, overalls, glasses and gloves when disposing of waste
• Using adequate tools to avoid contact with waste (brush, shovel)
• Do not submit protective medical clothing and PPE for laundering unless sterilized;

2.5.2 Segregation, Collection, and Transport

A programmed routine for biomedical waste collection should be established as part of the medical waste management plan. Waste should be separated into categories and placed in designated containers (i.e., covered buckets) as soon as it is generated in the treatment room or department. Health care workers are responsible for appropriately disposing of the waste. The number of places where patients and visitors can dispose of waste should be minimized (e.g. using designated containers in communal areas). WHO recommends that small amounts of chemicals can be collected with infectious waste.

Large amounts of hazardous chemicals should be packed in chemical resistant containers and be sent to specialized treatment facilities (if available).

Waste buckets should be transported with their lids securely in place to prevent spillage. When many containers need to be transported, a cart or trolley should be used to prevent back injury.

2.5.3 Storage and Packaging

The following general guidelines apply to typical medical waste storage, transfer, and collection areas:

• A temporary waste storage area, inside the waste zone, should be set aside to store soft waste until it can be picked-up or treated. Storage of medical waste should be for the minimum possible time, 24-48 hours in hot countries, 48-72 hours for cold countries (WHO).

• Areas used to store medical/infectious waste should be durable, easily cleanable, impermeable to liquids, and protected from vermin and other potential mechanisms that might spread infectious agents. Biomedical waste other than sharps and bulk liquids must be packaged in sealed in bags which are leak-proof and rip-resistant.

• Sharps shall be placed in rigid leak and puncture resistant containers.

• Bulk liquids to be transported off-site shall, in addition to the above requirements, be placed in rigid containers.

• The manner of storage should maintain the integrity of the containers, prevent leakage of waste from the container, provide protection from the weather, and maintain the waste in a non-putrescent, odorless state (this may require refrigeration).
• Storage areas should have adequate ventilation systems.

• Pathological waste, stored anywhere for more than 24 hours must be refrigerated. Storage of biomedical wastes may need to be stored at the facility of origin until a large enough quantity is accumulated to warrant on-site treatment, or until transport to an offsite treatment facility is scheduled.

• Access to the storage facility should be securely controlled and limited. Due to the hazardous nature of some medical wastes, appropriate methods of storing waste will help to prevent accidents and infections. Storage locations should be accessible, exclusive, secure, hygienic and sanitary, located as far as possible from patient treatment areas. Storage locations should be integrated with the physical and architectural infrastructure of the healthcare facility.

2.5.4 Transport and Disposal to External Facilities

Offsite transport of hazardous waste should be subject to national regulations. If there are none, then the ‘Recommendations on the transport of dangerous goods’ published by the UN¹ may be referred to. Certain recommendations should be followed by the sanitary workers and cleaners:

• Collection of medical waste should be from key sites (e.g. within nursing stations, mobile and fixed units), followed by transfer to the designated point(s) for segregation and/or treatment

• Waste should be collected daily at the same time (or as frequently as required) and transported to the designated central storage/treatment site.

• No bags should be removed unless they are labelled with their point of production (health unit/center) and contents.

• Bags or containers should be replaced immediately with new ones of the same type.

• There should be enough buckets provided to ensure an appropriate number of clean buckets in rotation. Buckets should be washed and disinfected before reuse.

• The waste should be placed in rigid or semi-rigid and leak-proof containers.

• Transport waste destined for off-site facilities according to the guidelines for transport of hazardous wastes / dangerous goods in the World Bank/ IFC General EHS Guidelines²; Accordingly the following considerations shall be followed:
  - Proper labeling of containers, including the identify and quantity of the contents, hazards, and shipper contact information
  - Providing a shipping document (e.g. shipping manifest) that describes the contents of the load and its associated hazards in addition to the labeling of the containers. The shipping document should establish a chain-of-custody using multiple signed copies to

¹ https://www.unece.org/trans/danger/publi/unrec/rev19/19files_e.html
² http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines
show that the waste was properly shipped, transported and received by the recycling or treatment/disposal facility
- Ensuring that the volume, nature, integrity and protection of packaging and containers used for
- transport are appropriate for the type and quantity of hazardous material and modes of transport involved
- Ensuring adequate transport vehicle specifications
- Training employees involved in the transportation of hazardous materials regarding proper shipping procedures and emergency procedures
- Using labeling and placarding (external signs on transport vehicles), as required
- Providing the necessary means for emergency response on call 24 hours/day

• Transport packaging for infectious waste should include an inner, watertight layer of metal or plastic with a leak-proof seal. Outer packaging should be of adequate strength and capacity for the specific type and volume of waste;
• Packaging containers for sharps should be puncture-proof;
• Transport vehicles should be dedicated to waste and the vehicle compartments carrying waste sealed.

2.5.5 On-Site Disposal

- Delete this Chapter if not applicable -

In facilities that have a waste zone, this is the final disposal site of the medical waste. A fully functional waste zone should have the following components:

• An incinerator or burner for treatment of soft waste.
• An ash pit for disposal of residues from the incinerator or burner and a covered pit with a hatch lid.
• A sharps pit for disposal of sharps containers. A sealed, covered pit with a 1m length of pipe incorporated in the top to prevent access to the contents.
• An organics pit for disposal of human tissue and other biological waste.
• An infiltration facility or sewer for the disposal of liquids.

The waste zone should be kept locked at all times. The waste manager has the responsibility for its correct management.

It should be mentioned that properly designed and operated sanitary landfills will protect against air and groundwater contamination. Disposal of waste into open dumps is not considered good practice and should be avoided. Pre-treatment of waste prior to land disposal may involve encapsulation (filling containers with waste and an immobilizing material and sealing the containers).
2.6 **SPECIAL CONSIDERATIONS FOR LIQUID CONTAMINATED WASTES**

Liquid contaminated waste (e.g. human tissue, blood, feces, urine and other body fluids) requires special handling, as it may pose an infectious risk to healthcare workers with contact or handle the waste. Steps for the disposal of liquid contaminated wastes are the following:

- Wear PPE (utility gloves, protective eyewear and plastic apron)
- Carefully pour wastes down a utility sink drain or into a flushable toilet and rinse the toilet or sink carefully and thoroughly with water to remove residual wastes. Avoid splashing.
- If a sewage system doesn’t exist, dispose of liquids in a deep, covered hole, not into open drains. This should be located at a safe distance from water sources.
- Decontaminate specimen containers by placing them in a 0.5% chlorine solution for 10 minutes before washing them.
- Remove utility gloves (wash daily or when visibly soiled and dry).
- Wash and dry hands or use an antiseptic hand rub as described above.

Acids and alkalis should be diluted; pH neutralized and disposed of to the sewer with water. Neutralization can be done with lime, which is cheap and effective.

In cases where wastewater is not discharged to sanitary sewage systems, HCF operators should ensure that wastewater receives on-site primary and secondary treatment, in addition to chlorine disinfection. Techniques for treating wastewater in this sector include source segregation and pretreatment for removal / recovery of specific contaminants such as radio isotopes, mercury, etc.; skimmers or oil water separators for separation of floatable solids; filtration for separation of filterable solids; flow and load equalization; sedimentation for suspended solids reduction using clarifiers; biological treatment, typically aerobic treatment, for reduction of soluble organic matter (BOD); biological or chemical nutrient removal for reduction in nitrogen and phosphorus; chlorination of effluent when disinfection is required; dewatering and disposal of residuals as hazardous medical / infectious waste.

Additional engineering controls may be required for (i) removal of active ingredients (antibiotics and miscellaneous pharmaceutical products, among other hazardous constituents), and (ii) containment and treatment of volatile constituents and aerosols stripped from various unit operations in the wastewater treatment system.

Wastewater generated from use of wet scrubbers to treat air emissions should be treated through chemical neutralization, flocculation, and sludge settling. Sludge should be considered hazardous, and may be treated off-site in a hazardous waste facility, or encapsulated in drums with mortar and landfilled. Sludge treatment should include anaerobic digestion to ensure destruction of helminthes and pathogens. Alternatively, it can be dried in drying beds before incineration with solid infectious wastes.

Cholera Epidemic: In case of a cholera epidemic, hospital sewage must also be treated and disinfected. *Vibrio cholerae*, the causative agent of cholera, is easily killed and does not require
use of strong disinfectants. Buckets containing stools from patients with acute diarrhea may be
disinfect by the addition of chlorine oxide powder or dehydrated lime oxide (WHO 1999).

The most contaminated waste water will come from the mortuary, showers, laundry, and
dishwashing area. Waste water from this area must, therefore, be disposed of in soak pits
possibly after first going through grease traps (so that the soak pit does not become clogged).
Soakaways must be located at least 30 meters from any groundwater source and the bottom of
any soakaway pit is at least 1.5 meters above the water tables.

2.7 INCINERATION

- Delete this Chapter if not applicable -

Incineration is a high-temperature process that reduces the volume and weight of waste. This
process is usually selected to treat waste that cannot be recycled, reused or disposed of in a
sanitary landfill or dumpsite. Medical waste produced under this project will be incinerated at
health facilities that are equipped with incinerators. In facilities with no incinerators, wastes will
be properly collected and safely transported to bigger facilities with incinerators.

2.7.1 Types of Incinerators

Incinerators can range from extremely sophisticated, high-temperature ones to very basic units
that operate at much lower temperatures. All types of incinerators, if operated properly,
eliminate micro-organisms from waste and reduce the waste to ashes. Four basic types of
incinerators are used for treating waste:

a) Double-chamber, high-temperature incinerators are designed to burn infectious waste.

b) Single-chamber, high-temperature incinerators are less expensive and are used when double
chamber incinerators are not affordable.

c) Rotary kilns operate at high temperatures and are used for destroying cytotoxic substances
and heat-resistant chemicals.

d) Drum or brick (clay) incinerators operate at lower temperatures and are less effective, but can
be made locally using readily available materials.

2.7.2 Simple Drum Incinerator for Waste Disposal³

Simple drum incinerator is the best practice for biomedical waste treatment for healthcare
facilities with limited resources and where high-temperature incinerators are not affordable,
waste may be incinerated in a drum incinerator, a drum incinerator is the simplest form of
single chamber incinerator. It can be made inexpensively and is better than open burning.

Steps for building & using simple drum incinerator are the following:

• Where possible, select a site downwind from the clinic.

³ See also Guidelines on How to Construct, Use, and Maintain a Waste Disposal Unit. WHO, 2005, and De Montfort Medical Waste Incinerator
• Build a simple incinerator using local materials (mud or stone) or a used oil drum (e.g. a 55-gallon drum). The size depends on the amount of daily waste collected.

• Collect all waste containers and locate them next to the incinerator for easy handing during operation.

• Make sure the incinerator has:
  - Sufficient air inlets underneath for good combustion  
  - Loosely placed fire bars to allow for expansion 
  - An adequate opening for adding fresh refuse and for removal of ashes  
  - A long enough chimney to allow for a good draft and evacuation of smoke

• Place the drum on hardened earth or a concrete base.

• Burn all combustible waste, such as paper and cardboard, as well as used dressings and other contaminated wastes. If the waste or refuse is wet, add kerosene so that a hot fire burns all the waste. Ash from incinerated material can be treated as non-contaminated waste.

• Ashes should always be removed from the incinerator PRIOR to operation; otherwise the efficiency of combustion will be compromised.

• It is recommended to install an ashtray under the grate to catch the ashes.

• Pull out the ashtray and grate out and carefully clean with the brush and ash shovel.

• Dispose of the ash directly to the ash pit.

• Any remaining ashes inside the chambers should be removed with a small, long handled brush and the ash shovel, transferred to a bucket and disposed of in the ash pit.

2.7.3  **Open Burning**

Open is not recommended because it is dangerous, unsightly and the wind will scatter the waste. If open burning must be done, burn in a small, designated area, transport waste to the site just before burning and remain with the fire until it is out.

2.7.4  **Types of Waste That Should Not Be Incinerated**

While it is possible to incinerate soft waste, the below items **SHOULD NOT** be incinerated:

• Pressurized gas containers (aerosol cans)

• Large amounts of reactive chemical waste

• Silver salts and photographic or radiographic wastes

• Plastic containing polyvinyl chloride (blood bags, IV tubing or disposable syringes)

• Waste with high mercury or cadmium content, such as broken thermometers, used batteries and lead-lined wooden panels
- Ampoules or vials, as molten glass will cause the grate to block up and vials can explode.
- Bottles of chemicals and reagents due to risk of explosion and formation of toxic gases.
- Needles due to the risk of needle stick injury from the metal ash.
- Expired drugs.
- Kitchen waste as this is wet, does not burn and will lower the efficiency.

Solid wastes that should not be incinerated will be packaged, transported to and disposed of in Government recognized landfill.

2.8 Burying Waste

-Delete this Chapter if not applicable-

Only contaminated and hazardous waste needs to be buried. In healthcare facilities with limited resources, safe burial of wastes on or near the facility may be the only option available for waste disposal. To limit health risks and environmental pollution, some basic rules are:

- Access to the disposal site should be restricted (Build a fence around the site to keep animals and children away).
- The burial site should be lined with a material of low permeability (e.g. clay), if available.
- Select a site at least 50 meters (164 feet) away from any water source to prevent contamination of the water table. The site should have proper drainage, be located downhill from any wells, free of standing water and not in an area that flood.
- Large quantities (over 1 kg) of chemical (liquid) wastes should not be buried at the same time; burial should be spread over several days. Safe on-site burial is practical for only limited periods of time (1–2 years), and for relatively small quantities of waste. During the interval, staff should continue to look for a better, permanent method for waste disposal.

The following are the key steps for burying waste.

- Find an appropriate location.
- Dig a pit 1 meter (3 feet) square and 2 meters (6 feet) deep. The bottom of the pit should be 2 meters (6 feet) above the water table.
- Dispose of the contaminated waste in the pit and cover the waste with 10–15 cm (4–6 inches) of dirt each day. The final layer of dirt should be 50–60 cm (20–24 inches) and compacted to prevent odors and attraction of insects, and to keep animals from digging up the buried waste. Depending on the volume of waste, this pit should last 30 to 60 days.
3 ROLES AND RESPONSIBILITIES

Even though all staff is responsible for managing waste, to ensure optimal waste management, the following roles and responsibilities are defined and designated in alignment with the overall Environmental and Social Management Plan (ESMP) and the site specific waste management plan if available.

- A lead responsible person for handling medical waste is being designated (the “Medical Waste Manager”). This person has the overall oversight and responsibility for the medical waste handling at site. He/she will lead on the delivery of training to the staff and the monitoring activities. He/she will be supported by the overall health facility management.

- In addition, there will be key personnel engaged in waste management activities are defined during all phases (i.e. Segregation, Storage and Packaging, Transportation and disposal).

<Please include names and positions in this section of the designated personnel.>

4 AWARENESS RAISING & CAPACITY BUILDING

Health care staff should be trained and aware of good practices and procedures of waste management under this plan. Such practices and procedures should be disseminated to the health care units/facilities through the following activities:

- The Medical Waste Manager will be responsible to train other health care staff on the management of generated waste on a regular basis. A training schedule will be developed and shared with the relevant personnel.

- Printing leaflets and booklets of good practices/procedures for waste management and disseminate these materials to the health units/facilities with medicine and vaccination.

- If needed, recruiting staff/consultants whose task is to train health care staff on managing wastes generated from facilities and units supported under this project.

<Make reference to overall training plan if existent.>

5 MONITORING

Monitoring is required to follow-up on decisions made to intervene in various activities of medical waste management in order to protect human health and the environment. This can be achieved through periodic internal and external processes of monitoring and evaluation on a continuous basis, at all institutional levels.

5.1 MONITORING OBJECTIVES

The objective of the monitoring is to establish appropriate criteria to address potential negative impacts of MWM and to ensure that unforeseen impacts are detected and the mitigation measures implemented at an early stage. Specific objectives of the monitoring plan are to:
• ensure that any additional impacts are addressed appropriately;
• check the effectiveness of the recommended mitigation measures;
• ensure that the proposed mitigation measures are appropriate;
• demonstrate that medical waste management is being implemented according to plan and existing regulatory procedures; and
• provide feedback to implementing agencies in order to make modifications to the operational activities where necessary.

5.2  **MONITORING ARRANGEMENTS**

<Provide further details on how and through which channels monitoring will be conducted on medical waste handling.>

5.3  **MONITORING INDICATORS**

Considering the type of interventions implemented by this projects which are anticipated to have limited, site specific impacts, the following will be used to monitor progress in implementing the medical waste management plan:

• Roles, Responsibilities and Resources
• Existence of records on waste generation; and
• Existence of mechanisms for proper and safe medical waste management & disposal.
Appendix 4 – Integrated Pest Management Plan

Integrated Pest Management

What is integrated pest management (IPM)?

Integrated pest management, commonly referred to as IPM, is a concept of managing pests that have been in use for several decades. IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made to remove only the target organism.

IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made to remove only the target organism. Integrated Pest Management, or IPM, is an approach to solving pest problems by applying our knowledge about pests to prevent them from damaging crops, harming animals, infesting buildings or otherwise interfering with our livelihood or enjoyment of life.

A well-defined Integrated Pest Management (IPM) program that should be based on prevention, monitoring, and control which offers the opportunity to eliminate or drastically reduce the use of pesticides, and to minimize the toxicity of and exposure to any products which are used. IPM does this by utilizing a variety of methods and techniques, including cultural, biological and structural strategies to control a multitude of pest problems Beyond Pesticides.

IPM is the holistic use of all available plant protection methods and subsequent integration of appropriate measures to discourage the development of weed, pest and disease populations. It keeps the use of pesticide and other interventions to levels that are economically and ecologically justified and minimizes risks to human health and the environment. As part of the Sustainable Use of Pesticides, professional users of pesticides are required to consider the principles of IPM before the use of chemicals.

Purpose and Principles of the Guidance Note

The purpose of the Guidance Note is to promote and support safe effective and environmentally sound pest management and to minimize health and environmental risks (including risks to terrestrial and aquatic ecosystems, non-target species and other important ecological resources) associated with the use of biocides and other pest management techniques.

PATRIP Foundation encourages the use of ecologically sound pest management practices, following Integrated Pest Management (IPM) principles. The over-riding principle is that the choice of the pest management technique should be based on effectiveness at managing the pest while minimizing the risks to health and the environment, including non-target or ecological damage. This Guidance Note recognizes that quite often, in particular when managing invasive alien species, a method such as biological control or biocides can - if used in an environmentally sensitive and effective way - cause less environmental damage than physical control. The choice of technique should be based on the overall balance of environmental costs and benefits, including the cost of leaving the pest unmanaged or less well-managed, and the environmental impacts of the chosen technique.
Scope of application

This document provides guidance for pest management planning for projects that intend or may be required to manage pests, with particular attention to the use of synthetic biocides, but with guidance.

This Guidance Note applies to any project that involves the use of biocides or other pest management techniques to manage any invasive alien species.

The Guidance Note is also applicable for projects that do not apply biocides but (only) include activities related to biocide handling (e.g. procurement and transportation of biocides, storage, disposal of biocides or biocide contaminated materials etc.).

The Guidance Note is further intended to inform projects supporting policy reform and institutional capacity development to enhance implementation of IPM and/or regulate and monitor the distribution and use of biocides.

Requirements

Projects that include the application of biocides is the minimum requirement is that the project document describes the proposed technique. Further requirements are:

(i) undertaking an assessment of the risks of applying the chosen technique (hereafter called “risk assessment” or RA) and

(ii) the development of a pest management plan (PMP).

(iii) however, applies only for projects where the proposed pest management technique could potentially cause more than very minor and temporary risk and requirement only for projects with potentially significant impacts, including beyond the immediate site of application. While the level of risk and applicability of these requirements will be established case-by-case during the ESA Screening.

Risk Assessment (RA)

A Risk Assessment RA technique evaluates the potential for negative impacts of the use of the technique on the environment (including impacts on non-target species and habitats and ecosystems), human health, or other human values. It sets these risks against the benefits to be obtained from the use of the proposed technique and, where appropriate, compares these costs and benefits with those that might result from using alternative management techniques. The RA technique should also propose measures to avoid, minimize or mitigate risks.

A pest management plan involves a more rigorous and comprehensive analytical process than a RA. It is a concise implementation plan for the pest management aspects of the project, which is used to communicate with relevant stakeholders to ensure that they are informed about important details of the pest management strategy and are allowed to react. The PMP includes the results of the RA but also describes the full rationale of and justification for the application of biocides or other pest management techniques, and the respective institutional and regulatory framework. It provides a comprehensive description of the proposed technique, associated risks and appropriate measures to minimize or mitigate those risks. The detailed content is outlined in Annex A.

Relevant stakeholders should be involved in the development of the PMP, in particular local communities who may be affected by the application of the biocide or other pest management
technique (e.g. by proximity, through hydrological systems, by the use of treated areas for free-ranging livestock or non-timber forest product collection, etc.).

The PMP needs to be disclosed and discussed in at least two steps. A draft version of the plan must be shared at the earliest possible stage with potentially affected parties and other stakeholders, in a form and language understandable to them, and their views must be taken into account during the revision of the draft. The final version of the plan must be publicly disclosed and get prior approval from the PATRIP Foundation before the implementation of the project in the field.

IPM Process

IPM Strategies
IPM incorporates several pest management strategies to maintain crop profitability, minimize pest populations, and minimize environmental and health impacts. Approaches are aimed at preventing the pest from occurring in an area, using avoidance techniques to minimize the chance of pest development, monitoring for pests in the field, identifying pests properly, assessing pest populations and determining economic threshold levels, and using pest management strategies
to mitigate economic crop loss. The following strategies may be used in various combinations to accomplish these goals:

IPM is not a principle that can/should be strictly and equally applied to every situation, but a philosophy that can guide the practitioner to use it as appropriate for the situation. For example, varieties that are resistant to arthropod pests and diseases are available for some crops, but not for others. Mating disruption with pheromones is widely practised for certain lepidopteran and coleopteran pests, but not for several hemipteran pests. Biological control is more readily employed for greenhouse pests, but not to the same extent under field conditions. While chemical pesticides should be used as the last resort, in principle, sometimes they are the first line of defence to prevent damage to the transplants by certain pests or area-wide spread of certain endemic or invasive pests and diseases.

Crop production is an art, science, and business, and by adding environmental and social factors, IPM – an approach used in agriculture – can also be influenced by some factors. Each grower has their strategy for producing crops, minimizing losses, and making a profit in a manner that is acceptable to the society, safe for the consumers, and less disruptive to the environment. In other words, “IPM is an approach to manage pests in an economically viable, socially acceptable, and environmentally safe manner”. Keeping this simple, but loaded, a definition in mind and considering recent advances in crop production and protection, communication technology, and globalization of agriculture and commerce, here is the new paradigm of IPM with its management, business, and sustainability aspects.

I. Management Aspect

There are four major components in the IPM model that address the various pest management options, the knowledge and resources the grower has to address the pest issue, planning and organization of information to take appropriate actions, and maintaining good communication to acquire and disseminate knowledge about pests and their management.

IPM is about preventing or controlling pests and diseases using a whole range of measures and options:

- Crop rotation
- Cultivation techniques
- Use of resistant/tolerant cultivars and certified seed/planting material
- Use of balanced fertilisation, liming and irrigation/drainage practices
- Good hygiene measures (e.g. cleaning machinery)
- Protection and enhancement of important beneficial organisms – like predatory and parasitic insects that will attack your pest insects
- Monitoring harmful organisms
- Application of plant protection based on monitoring data
- Use of biological, physical and other non-chemical methods in preference to chemical methods if they provide satisfactory pest control
- Targeted application of pesticide
- Use of pesticides kept to levels that are necessary and that do not increase the risk for development of
1. Pest Management:

The concept of pest control has changed to pest management over the years knowing that a balanced approach to managing pest populations to levels that do not cause economic losses is better than eliminating for environmental and economic reasons. Although the term control is frequently used in literature and conversations, it generally refers to management. Thorough knowledge of general IPM principles and various management options for all possible pest problems is important as some are preventive and others are curative. It is also essential to understand the inherent and potential interactions among these management options to achieve maximum control. The following are common control options that can be employed at different stages of crop production to prevent, reduce, or treat pest infestations. Each of them may provide only a certain level of control, but their additive effect can be significant in preventing yield losses.

![Diagram of Pest Management Options]

a. **Host plant resistance:** It involves the use of pest-resistant and tolerant cultivars developed through traditional breeding or genetic engineering. These cultivars possess physical, morphological, or biochemical characters that reduce the plant's attractiveness or suitability for the pest to feed, develop, or reproduce successfully. These cultivars resist or tolerate pest damage and thus reduce the yield losses.

b. **Cultural control:** Changing agronomic practices to avoid or reduce pest infestations and damage refers to cultural control. Adjusting planting dates can help escape pest occurrence or avoid most vulnerable stages. Modifying irrigation practices, fertilizer program, plant or row spacing, and other agronomic practices can create conditions that are less suitable for the pest. Destroying crop residue and thorough cultivation will eliminate breeding sites and control soil-inhabiting stages of the pest. Crop rotation with non-host or tolerant crops will break the pest cycles and reduce their buildup year after year. Choosing clean seed and plant material will avoid the chances of introducing pests right from the beginning of the crop production. Sanitation practises to remove infected plant material, regular cleaning field equipment, avoiding accidental contamination of healthy fields through human activity are also important to prevent the pest
spread. Intercropping of non-host plants or those that deter pests or using trap crops to divert pests away from the main crop is some of the other cultural control strategies.

c. Biological control: Natural enemies such as spiders, predators, and parasitic wasps can be very effective in causing significant reductions in pest populations in certain circumstances. Periodical releases of commercially available natural enemies or conserving natural enemy populations by providing refuges or avoiding practices that harm them are some of the common practices to control endemic pests. To address invasive pest issues, classical biological control approach is typically employed where natural enemies from the native region of the invasive pest are imported, multiplied, and released in the new habitat of the pest. The release of irradiated, sterile insects is another biological control technique that is successfully used against some pests.

d. Behavioral control: Behavior of the pest can be exploited for its control through baits, traps, and mating disruption techniques. Baits containing poisonous material will attract and kill the pests when distributed in the field or placed in traps. Pests are attracted to certain colours, lights, odours of attractants or pheromones. Devices that use one or more of these can be used to attract, trap or kill pests. Pheromone lures confuse adult insects and disrupt their mating potential, and thus reduce their offspring.

e. Physical or mechanical control: This approach refers to the use of a variety of physical or mechanical techniques for pest exclusion, trapping (in some cases similar to the behavioural control), removal, or destruction. Pest exclusion with netting, handpicking or vacuuming to remove pests, mechanical tools for weed control, traps for rodent pests, modifying environmental conditions such as heat or humidity in greenhouses, steam sterilization or solarization, visual or physical bird deterrents such as reflective material or sonic devices are some examples for physical or mechanical control.

f. Microbial control: Using entomopathogenic bacteria, fungi, microsporidia, nematodes, and viruses, and fermentation byproducts of microbes against arthropod pests, fungi against plant-parasitic nematodes, and bacterial and fungal antagonizers of plant pathogens generally come under microbial control.

g. Chemical control: Chemical control typically refers to the use of synthetic chemical pesticides, but to be technically accurate, it should include synthetic chemicals as well as chemicals of microbial or botanical origin. Although botanical extracts such as azadirachtin and pyrethrins, and microbe-derived toxic metabolites such as avermectin and spinosad are regarded as biologicals, they are still chemical molecules, similar to synthetic chemicals, and possess many of the human and environmental safety risks as chemical pesticides. Chemical pesticides are categorized into different groups based on their mode of action and rotating chemicals from different groups is recommended to reduce the risk of resistance development. Government regulations restrict the time and amount of certain chemical pesticides and help mitigate the associated risks.

The new RNAi (ribonucleic acid interference) technology where double-stranded RNA is applied to silence specific genes in the target insect is considered as a biopesticide application. Certain biostimulants based on minerals, microbes, plant extracts, seaweed or algae impart induced systemic resistance to pests and diseases but are applied as amendments without any claims for
pest or disease control. These new products or technologies can fall into one or more abovementioned categories.

As required by the crop and pest situation, one or more of these control options can be used throughout the production period for effective pest management. When used effectively, non-chemical control options delay, reduce, or eliminate the use of chemical pesticides.

2. Knowledge and Resources:

The knowledge of various control options, pest biology and damage potential, and suitability of available resources enables the grower to make a decision appropriate for their situation.

a. Pest: Identification of the pest, understanding its biology and seasonal population trends, damaging life stages and their habitats, nature of the damage and its economic significance, vulnerability of each life for one or more control options, host preference and alternate hosts, and all the related information is critical for identifying an effective control strategy.

b. Available control options: Since not all control options can be used against every pest, the grower has to choose the ones that are ideal for the situation. For example, systemic insecticides are more effective against pests that mine or bore into the plant tissue. Pests that follow a particular seasonal pattern can be controlled by adjusting planting dates. Commercially available natural enemies can be released against some, while mating disruption works well against others. Entomopathogenic nematodes can be used against certain soil pests, bacteria and viruses against pests with chewing mouthparts such as Lepidoptera and coleopteran, and fungi against sucking pests.

c. Tools and technology: A particular pest can be controlled by certain options, but they may not all be available in a particular place, for a particular crop, or within the available financial means. For example, the release of natural enemies may be possible in high-value specialty crops, but not in large acreage field crops. A particular pesticide might be registered against a pest on some crops, but not on all. Use of netting or tractor-mounted vacuums can be effective, but very expensive limiting their availability to those who can afford.

This is a critical component where diagnostic and preventive or curative decisions are made based on available and affordable control options.
3. Planning and Organization:

This component deals with the management aspect of the new IPM model for data collection, organization, and actual actions against pest infestations.

a. Pest monitoring: Regularly monitoring the fields for pest infestation and spread is a basic step in crop protection. Early detection in many cases can help address the pest situation by low-cost spot treatment or removal of pests or infected/infested plant material. When pest infestations continue to grow, regular monitoring is necessary to assess the damage and determine the time to initiate farm-wide control. Monitoring is also important to avoid calendar-based pesticide applications especially at lower pest populations that do not warrant treatments.

b. Managing information: A good recordkeeping about pests, their damage, effective treatments, seasonal fluctuations, interactions with environmental factors, irrigation practices, plant nutrition, and all related information from year to year will build the institutional knowledge and prepares the grower to take preventive or curative actions.

c. Corrective actions: Taking timely action is probably the most important aspect of IPM. Even with all the knowledge about the pest and availability of resources for its effective management, losses can be prevented only when corrective actions are taken at the right time. Good farm management will allow the grower to take timely actions. These actions are not only necessary to prevent damage on a particular farm, but also to prevent the spread to neighbouring farms. When pest management is neglected, it leads to area-wide problems with larger regulatory, social, and economic implications.

4. Communication:

Good communication to transfer the individual or collective knowledge for the benefit of everyone in the last component of the new IPM model. Modern and traditional communication tools can be used for outreach as university and private researchers develop information about endemic and invasive pests, emerging threats, and new control strategies.
a. Staying informed: Growers and pest control professionals should stay informed about existing and emerging pests and their management options. Science-based information can be obtained by attending extension meetings, webinars, or workshops, reading the newsletter, trade, extension, or scientific journal articles, and keeping in touch with researchers and other professionals through various communication channels. Well-informed growers can be well prepared to address pest issues.

b. Communication within the group: Educating farmworkers through periodical training or communication will help with all aspects of pest management, proper pesticide handling, ensuring worker safety, and preventing environmental contamination. Knowledgeable field workers will be beneficial for effective implementation of pest management strategies.

c. Communication among growers: Although certain crop production and protection strategies are considered proprietary information, pests do not have boundaries and can spread to multiple fields when they are not effectively managed throughout the region. Sharing knowledge and resources will improve pest control efficacy and benefit the entire grower community.

In addition to these four components with an IPM model, factors that influence profitable, safe, and affordable food production at a larger scale and their implications for global food security should also be included. Two layers are surrounding these four components addressing the business and sustainable aspects of food production.

II. Business Aspect:

Consumers want nutritious, healthy, and tasty produce that is free of pest damage at affordable prices. Growers try to meet this demand by producing food that meets all the consumer needs while maintaining environmental and human safety and still being able to make a profit. Sellers evaluate the market demand and strategize their sales to satisfy consumers while making their profit to stay in the business. In an ideal system, consumer, producer, and seller would maintain a harmonious balance of food production and sale. In such a system, food is safe and affordable to everyone, there will be food security all over the world, and both growers and sellers make a good profit with no or minimal risk to the environment in the process of food production. However, this balance is frequently disrupted due to i) consumers'
misunderstanding of various food production systems, their demand for perfectly shaped fruits and vegetables at affordable prices or their willingness to pay a premium price for food items that are perceived to be safe, ii) growers trying to find economical ways of producing high-quality food while facing with continuous pest problems and other challenges, and iii) sellers trying to market organic food at a higher price as a safer alternative to conventionally produced food. If growers implement good IPM strategies to produce safe food and consumers are aware of this practice and gain confidence in food produced in an IPM system, then sellers would be able to market what informed-consumers demand.

III. Sustainability Aspect:

As mentioned earlier, IPM is an approach to ensure economic viability at both consumer and producer level (seller is always expected to make a profit), environmental safety through a balanced use of all available pest control options, and social acceptability as food is safe and affordable.

While organic food production is generally perceived as safe and sustainable, the following examples can explain why it is not necessarily true. Organic food production is not pesticide-free and some of the pesticides used in an organic system are as harmful to humans and non-target organisms as some chemical pesticides. Certain organically accepted pesticides have toxins or natural chemical molecules that are very similar to those in synthetic pesticides. Some synthetic pesticides are manufactured imitating the pesticidal molecules of natural origin. Mechanical pest control practices such as vacuuming or tilling utilize fossil fuels and indirectly harm the environment. For example, diesel-powered tractors are operated for vacuuming western tarnished bug in strawberry 2-3 times or more each week while a pesticide application typically requires the use of tractor once every 7-14 days. To control certain pests, multiple applications of organic pesticides might be necessary with associated costs and risks, while similar pest populations could be controlled by fewer chemical pesticide applications. It is very difficult to manage certain plant diseases and arthropod pests through non-chemical means and inadequate control not only leads to crop losses but can result in their spread to larger areas making their control even more difficult. Many growers prefer a good IPM-based production to organic production for the ease of operation and profitability. However, they continue to produce organic food to stay in business.

While middle and upper-class consumers may be willing to pay higher prices for organically produced food, many of the low-income groups in developed and underdeveloped countries cannot afford such food. Organic food production can lead to social inequality and a false sense of wellbeing for those who can afford. Food security for the growing world population is necessary through optimizing input costs, minimizing wastage, grower adoption of safe and sustainable practices, and consumer confidence in food produced through such practices. IPM addresses all the economic, environmental, and social aspects and provides safe and affordable food to the consumers and profits to producers and sellers while maintaining environmental health.
Advantages of Integrated Pest Management (IPM)

There are many advantages to using the IPM pest management approach: 

*Maintaining a Balanced Ecosystem:* Ecosystems are comprised of living and non-living components that are intricately linked as effects of one species within the system may affect other species (positively or negatively) due to the reliance at different trophic levels. Ideally, and in many cases this is true, functional redundancy is present within a system, and organisms can adapt as the ecosystem evolves and species composition changes at different trophic levels. Using chemical controls can reduce pests, but may also reduce species of organisms that reduce pest species themselves within the ecosystem. By using and IPM approach, we aid in maintaining ecosystem stability while controlling pest problems.

- Reduced crop loss and improved crop quality
- Judicious use of pesticides in combination with non-chemical strategies, which results in improved protection of environment and health
- Reduced pest resistance
- Increased partnerships among growers, commodity groups, universities, consultants, industry and agencies to improve pest management
- Implementation of improved strategies and products through research
Seven steps to agricultural IPM

**STEP 1: Prepare**

Know your pests:
Which pests can you expect? What do they look like? What kind of damage do they cause? When and how should you watch for them? What can you do to avoid them? Which tactics should you use to manage them? What are your strengths and limitations in terms of labor, equipment, and markets? What beneficial species will help you? Learn about pest and beneficial organisms' populations. Populations have:
- density (how many are in your fields?)
- age distributions—a pest may be susceptible to treatment at one point in its life cycle (or your crop’s growth stage) but not at another

**STEP 2: Prevent**

Protect your crops for the long term. Examples:
- promote biological diversity around the farm to give beneficial organisms a helping hand
- rotate your crops to break pest life cycles—which improves soil tilth and fertility too
- plant varieties that resist common disease and insect pests
- remove, compost, or destroy diseased plants and other sources of pest infestation… or use plant debris in tillage plans that build healthy soils
- plant only on sites that meet your crops’ needs
- build soil health—healthy crops tolerate pests better

**STEP 3: Monitor**

Observe your fields to find out what pests are in your crops. Proper sampling quickly tells you both "what" and "how many." Collect this valuable information in time to use it! Use weather forecasts, because Weather Applications helped in pest forecasts to help you decide if, when, and where to look out

Observing/analyzing data—what is your IPM threshold—tells you if it’s time to act. Many crops can tolerate some pests before you incur losses. Will your benefits justify the costs? Know all the options before you initiate the process.

**STEP 4: Analyze**

If action is required, choose among those that provide the best balance of economic and environmental cost and effect while reducing risk.

**Examples:**
- rotate crops to avoid damage from corn rootworm, onion thrips, swede midge (cultural)
- cultivate to kill lambsquarters, pigweed, and other annual weeds; use row covers to keep flea beetles off early spring crops (mechanical)
- release parasitic wasps to manage stable flies, corn earworm, or greenhouse crops (biological)
- plant disease-resistant vegetables, grains, forages, bedding plants, and fruits (genetic)
- judicious, careful use of herbicides, insecticides, and fungicides (chemical)

When management is justified, do it right.
For instance, cultivation usually works best before weed seedlings are even visible above the soil surface. Biological control agents—parasitic wasps and other "good bugs"—need to be released in the proper place, at the proper time. Pesticides may only work during a certain part of a pest’s life cycle. If you use a pesticide, be sure you READ THE LABEL, follow the directions, and wear protective clothing.

**STEP 5: Manage**

Short term, long term…
Did you make the right decision; did you get the results you wanted? How much has the situation changed since last week? Different tactics might work better in the long term. What worked well during the season, and what did not? Is the alfalfa stand healthy enough to keep in another year? Should the tomatoes be rotated out? Is a soil insecticide necessary? Good records will help next year!
Selection and Management of Pesticides

For projects that involve the use of synthetic or natural biocides (or bio-pesticides) adherence to the following requirements should be demonstrated:

i). Evidence that available options to avoid the use of biocides have been rigorously considered, such as biological or physical means, and that none is viable for the specific context and objective. The Guidance Note recognizes that for some pest management operation such as eradication of rats, biocides are generally accepted as the best method; in such cases, there may be no need to prove that biological or mechanical means are not effective. If this is the case, seek preliminary confirmation as part of ESA Screening.

ii). Any use of biocides or bio-pesticides must be guided by the associated technical guidelines provided by the manufacturers of the respective product and the respective national regulatory authority and comply with recommendations and minimum standards as described in the WHO and FAO (2014) and associated guidelines; this includes ensuring the use of suitable protective and application equipment and that biocides are handled only by appropriately trained operators.

iii). Preference should be given to products that are less hazardous and persistent in the environment, and to methods of application and equipment that minimize the risks to users, local communities and the environment, and which maximise efficiency (i.e. requiring smaller quantities of biocide). Synthetic and natural biocides should have a lifespan in the field that does not exceed the project needs; for example, bio-pesticides should not remain active in the soil for long periods after the use of the agent. The technique risk assessment needs to demonstrate that risks are within acceptable thresholds (according to national or international standards, whichever is stricter) in normal operating conditions as well as in abnormal situations (including leaks, spills and emergencies).

iv). The procurement or use of formulated products that are in World Health Organization (WHO) Classes IA (extremely hazardous) and IB (highly hazardous), or formulations of products in Class II, are not allowed in PATRIP Foundation’s funded projects unless there are restrictions in place that deny or prevent the use or access of substance by lay personnel and others without training or proper equipment. The use of IA and IB should strictly adhere to the FAO/WHO guidelines on highly hazardous pesticides. Chemicals specified as persistent organic pollutants (POPs) under the Stockholm convention are not to be used in any PATRIP Foundation’s funded project.

Where projects involve the application of biological control, traps or hormone lures, the following requirements apply:

a). The Risk Assessment (RA) technique needs to demonstrate that risks to terrestrial and aquatic ecosystems, non-target species and other important ecological resources are minimised and where possible mitigated

b). The use of biological control agents must follow the internationally agreed standards.

If dealing with pest animals, particularly vertebrates, safety guidelines should be followed as outlined by the manufacturer of the trapping equipment or biocide, internationally recognized best practice, or national legislation, whichever is stricter. For example, many kinds of trap should be checked daily, and in some countries or circumstances, management of certain pest taxa such as mammals and birds may not be carried out while they have dependent young. The Project Executing

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1 Plant Production and Protection Division: International Code of Conduct on Pesticide Management (fao.org)
2 The WHO Recommended Classification of Pesticides by Hazard and guidelines to classification, 2019 edition
3 International Code of Conduct on Pesticide Management - Guidelines on Highly Hazardous Pesticides
4 Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms
5 A Review of Best Practice Management for Humane and Effective Vertebrate Pest Control
Agency (PEA) should also make the arrangements for safely disposing of the carcasses of culled pest animals.

Populations of both pests and non-target indicator species should be measured before and after treatment, to evaluate the effectiveness of pest removal and any impacts on non-targets.

The Project Executing Agency (PEA) must monitor the implementation of the mitigation measures regularly and judge their effectiveness in mitigating pest management risks, so that corrective action can be undertaken, where needed. The end-of-project evaluation should assess whether the project has been able to avoid or mitigate negative impacts and identify any risk issues that require further action or monitoring.

The costs for implementing the activities specified in the pest management plan, including risk mitigation measures, must be estimated and incorporated into the project.

At the start of the project, the Project Executing Agency (PEA) should explain to all relevant stakeholders the PATRIP Foundation’s E&S Grievance system and its role as a mechanism to receive and address complaints related to situations where the project fails to follow the agreed mitigation measures, or where the application of pest management techniques might cause social or environmental harm.
Annex-A

Outline the Pest Management Plan (PMP)

Section 1: Basic Information

1. Title and Number of the project.
2. Area where the pest management will be applied.
3. Name and email of the contact/focal person responsible for PMP.
4. Name of the Project Executing Agency (PEA).
5. Summary of the project.
6. Date of preparation of the PMP.

Section 2: Introduction of the Intended project

Provide basic information of the project with its aims and objectives

Section 3: Rationale for the pest management approach

This section establishes the rationale for using the proposed pest management approach by providing a description of the following items:

1. Current impacts caused by the pest which is proposed for management by the project, and anticipated future changes such as those caused by climate change and other planned interventions;
2. Current management practices applied to the pest, and rationale for the proposed changes; If any experience with pest management.
3. Major field crops

Section 4: Description of pest management technique

This section provides a comprehensive description of the chosen pest management technique. For the application of synthetic or natural biocides (or bio-pesticides) the following items need to be included:

1. The identity, class and quantity/application rate of biocides or bio-pesticides envisaged for use by the project (including chemical, trade and common names, likely dilution rates, application rates per ha etc).
2. The form and methods of application in which biocides or bio-pesticides will be used (e.g., pellet, liquid, back-pack or aerial spraying, rodenticides, permanent bait stations etc).
3. Specific geographical location where the biocides or bio-pesticides will be applied: e.g. name of the local area, district, municipality, landowners, map or coordinates (if available); and the estimated total area (hectares) to which the biocide will be applied.
4. Name and address of the supplier of selected biocides or bio-pesticides (including confirmation of holding a license to sell this product) and details of the facility where the products will be stored.
Section 4: Institutional and regulatory framework

This section should provide a short description of the institutional and legal framework under which the biocide or other technique will be applied.

1. Short description of the country's regulatory framework and the legal status of the product or technique including a reference to the required documentation and standards required under national law or internationally recognized good practice.

2. Where a biocide or other technique is not regulated, the Project Executing Agency (PEA) should attempt to identify international laws for this or similar products, or applicable regulations in neighbouring countries that could be used as a guide, including internationally recognized good practice. The Project Executing Agency (PEA) must also explain why this particular biocide or technique is necessary despite the absence of national regulation.

3. Analysis of institutional capacity for control of the distribution, use and disposal of biocides, in particular the product selected by the project and the institutions responsible at the project site.

4. Any measures proposed to strengthen the regulatory framework and institutional capacity, where relevant.

Section 5: Integrated Pest Management (IPM)

No single method of pest control is adequate to give satisfactory results in all situations. Therefore an integrated approach needs to be adopted. For this purpose, Integrated Pest Management (IPM) is the best available alternative. IPM has no standard definition, but is commonly referred to as a diverse mix of approaches to manage pests; keep them below damaging levels by using control options that range from cultural practices to chemicals. Technologies involved, such as the use of bio-pesticides that are local tree/bushes and tobacco), augmentation releases of predators/parasites, development of pest-resistant species, crop rotation, cultural practices, and balanced use of fertilizers

Integrated Plant and Soil Nutrient Management (IPSNM)

The concept of Integrated Plant and Soil Nutrient Management (IPSNM) entails the management of both organic and inorganic plant nutrients for optimal production of the cultivated crop, forage, and tree species while conserving the natural resource base that is essential for the long-term sustainability of the agro-ecosystems and the environment. Organic fertilizers bring about many useful changes in the chemical, microbiological and physical properties of soil that enhance soil fertility. The effect is long-term and not immediate, and, therefore, farmers hesitate to use organic fertilizers

Good Agriculture Practices (GAP) and Participatory Development Technology (PDT)

The Good Agricultural Practices (GAP) can be introduced as the main focus of all related activities to all areas of the production and post-harvest handling of produce. For any crop, there are internationally recognized standards that can form the basis of a set of codes of practice that can be slowly introduced to farmers.

Laws, Rules and Regulations

Provide information on all the applicable laws of the country.
Section 6: Risk Assessment (RA) Techniques

This section should analyse the potential environmental, occupational, and public health risks of the chosen pest management approach, taking into account the proposed use, intended users and other actors involved. It should propose effective measures for minimizing identified risks. This should include:

1. Assessment of risks to people associated with the application of the product or technique based on any physical risks or the expected exposure to the biocide of relevant operators or members of the public, their sensitivity and likelihood that exposure may cause harmful impacts. The assessment should take the real circumstances of application into account, including the capability of operators to handle products within acceptable risk margins and their access to and use of protective gear and appropriate application equipment.

2. Assessment of risks to the environment associated with the application of the technique or product, based on the expected levels of use of the product. The assessment should include potential impacts to all components of the biophysical environment, including but not limited to soils, surface waters, groundwater, marine run-off, habitats, plant communities, and non-target species, particularly native, endemic and threatened species.

3. Assessment of risks linked to the steps prior and after application such as transport, storage, local movement and handling, and disposal of the proposed chemicals (and diluents) under local circumstances (including the disposal of empty chemical containers); evaluation of the capability of actors operating these steps to handle the product.

4. The Risk assessment (RA) should consider normal operations as well as abnormal situations and hazards (including weather hazards, spills and emergencies, and associated clean up).

5. Effective measures should be identified to reduce and mitigate the risks such as training for workers applying biocides and for people coming in contact with the substances, effective personal protective equipment, development of standard operating procedures (SOPs), upgrading of storage facilities etc.; mitigation measures should include activities for monitoring effectiveness of application and early identification of needs for corrective actions (e.g. tracking of damage to and/or deaths of non-target species).

6. Alternatives to the proposed technique should be examined and evidence provided that no less risky technique would be viable for the specific context and objective. Similarly, evidence should be provided that preference has been given to products that are less hazardous and persistent, and to methods of application that reduce environmental and health risks and maximise efficiency by requiring smaller quantities of the biocide.

7. The assessment should conclude with a comparison of the selected approach and its expected result with the current situation, and provide clear evidence of the benefits justifying the selection of the approach.
Section 7: Mitigation, monitoring and emergency plan

1. This section should provide a detailed description of the mitigation measures recommended by the Risk Assessment RA. This should include specifying required resources, technical specifications, schedule, costs and responsibilities.

2. This section should also include an emergency plan outlining the actions to be taken if the application of the technique results in unexpected events with negative environmental or health impacts (including unpredicted non-target mortality, physical damage such as landslides, or leaks, spills and associated clean up). The emergency plan should:
   i). describe the planned responses to emergencies caused by unexpected natural events (such as high winds, excessive rainfall, runoff, unexpected movement of wild or domestic animals, etc.) as well as by technical failure or human error;
   ii) describe procedures for first aid and medical attention for cases involving poisoning or undue contact with these substances;
   iii) include the provision to cease the application as quickly as possible whenever necessary, and to assist in preventing damage (and to reverse it if at all possible);
   iv) include a mechanism to observe and record any such unexpected events or impacts.

Section 8: Consultation, disclosure and grievance

1. This section should document when and where the Pesticides Management Plan (PMP) was disclosed and the range of consultations the Project Executing Agency (PEA) has undertaken with stakeholders, particularly local communities and their potentially affected members including adjacent land-owners or land users. It should specify the dates and results of relevant consultations, including how feedback received was taken into consideration.

2. It should also provide evidence of consultations held with relevant authorities (indicating who and when) and evidence that appropriate Environment and Social Assessment procedures were followed and licenses and permissions, where relevant, were obtained.

3. The section should conclude with an explanation of the PATRIP Foundation’s Environment and Social Management System grievance mechanism and its role to receive and address complaints in case pest management techniques might cause social or environmental harm; this should include instructions how to access this system.
Appendix 1: Questionnaire on Pest Management

This questionnaire will be used with the farmer groups for purpose of implementing the IPMP

1) Pest Control practices

a) Do you use any pesticides to control pests (insects, diseases, weeds) of crops? Each season

Yes ☐  No ☐

If No, WHY? if yes name them _____________________________________________

<table>
<thead>
<tr>
<th>Yes Name them</th>
<th>If No, Why</th>
<th>Name of pesticide</th>
<th>Name of pest, disease, weed</th>
<th>Number of times applied/season</th>
<th>When did you apply (growth stage or month)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b) If you use any of the above pesticide types, do you keep records of the:

i) Application location       Yes ☐  No ☐

ii) Date of application       Yes ☐  No ☐

iii) Pesticide product trade name       Yes ☐  No ☐

iv) Operator/User name       Yes ☐  No ☐

If No, WHY? if yes name them _____________________________________________

c) How do you decide when to use the pesticides (tick all that apply)?

a) We use pesticides at regular intervals throughout the season (calendar)

b) We use pesticides when we see pests in the field (control)

c) We use pesticides after field sampling and finding a certain number of pests or a certain level of damage (scouting)

d) Told by someone to apply (specify who)

Other (specify)

d) Do you use a knapsack sprayer?       Yes ☐  No ☐

(i) If yes, do you own it?       Yes ☐  No ☐

(ii) Do you rent it?       Yes ☐  No ☐

(iii) Do you borrow it?       Yes ☐  No ☐

e) From your experience, are there any negative/harmful effects of using pesticides?
Yes       No

f) If yes, list the negative effects:

1____________________________________________________________________
2____________________________________________________________________
3____________________________________________________________________
4____________________________________________________________________
5____________________________________________________________________

g) Do you use any kind of protective clothing while applying or handling pesticides?

Yes ☐      No ☐

If no, Why? ____________________________________________________________

h) If YES, what kind?

2. Knowledge of pesticide handling and storage (tick one in each row)

a) Do you read labels on the pesticide container before using?

Sometimes ☐      Always ☐      Never ☐

b) How often do you wear protective clothing and other accessories like a nasal mask, eye goggles, and boots when applying the pesticides?

Sometimes ☐      Always ☐      Never ☐

c) Do you mix pesticides with your hands?

Sometimes ☐      Always ☐      Never ☐

d) Do you observe the pre-harvest waiting periods after applying the pesticides?

Sometimes ☐      Always ☐      Never ☐

e) After spraying, do you wait 12 hours before entering the field?

Sometimes ☐      Always ☐      Never ☐

2) Do you make a cocktail before applying the pesticides? (i.e., mix more than one chemical and apply them at once?)

Sometimes ☐      Always ☐      Never ☐
h) Where do you store your pesticides?______________________________

i) Why do you store them there?____________________________________

j) What do you do with your pesticide containers after they are empty?
____________________________________________________________________

k) Do you know of any beneficial insects (insects that eat harmful insects)?
   Yes ☐ No ☐

   (i) If yes, name them:
       (a)_________________ (b) ___________________ (c) ____________________

3. Pesticides and Health

   (a) Do you find that pesticide application is affecting the health of persons
       regularly applying pesticides?
       Sometimes ☐ Always ☐ Never ☐

   (b) Persons working in fields sprayed with pesticides?
       Sometimes ☐ Always ☐ Never ☐

   (c) Persons harvesting the produce?
       Sometimes ☐ Always ☐ Never ☐

4. Options to Pesticides

   From your experience, are you aware of other methods for controlling insects’ diseases and/or
   weeds besides pesticides?
   Yes ☐ No ☐

   a) If yes, describe these practices:

      i) ___________________________________________________________

      ii) _________________________________________________________

      iii) _________________________________________________________

      iv) _________________________________________________________

4. Information

   a) What information do you think you need for improving your crop production and marketing?
      ___________________________________________________________________

5. Training

   a) Have you ever received any training on any of the following topics related to crop production?
<table>
<thead>
<tr>
<th>Integrated Pest Management?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of times/past year. ...........</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Pesticide Usage</td>
<td>Yes □ .... No No □</td>
<td></td>
</tr>
<tr>
<td>No. of times/past year. ...........</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Pesticide Safety</td>
<td>Yes □ .... No No □</td>
<td></td>
</tr>
<tr>
<td>No. of times/past year. ...........</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Insect Identification Yes □ ....... No □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of times/past year. ...........</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Disease Identification Yes □ ....... No □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of times/past year. .......</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Quality aspects of production: Yes □ No □
No. of times/past year. ........... |

7) Is there anything else that you want us to know about your crop production?

_______________________________________________________________________
_______________________________________________________________________
Appendix 2. Integrated Pest Management (IPM) Activity Record Checklist Template for the Farmers

1. Project Name & Number:

Name and Executing Organization

Name and contact details of responsible person

Name of farmer

Type of Farming Activity

Year/Time of the Year

2. Integrated Pest Management Practices

Tick (√) only the appropriate options currently practised on your farm

A. The prevention and/or suppression of harmful organisms

Crop rotation

Use of optimal sowing date Minimum cultivation

Management of crop residues

Soil structure and compaction

Certified seed/tested home saved seed

Choose disease resistant varieties

Irrigation (applied to schedule)

Nutrient management programme

Soil testing (pH, nutrients, organic matter) Liming

Clean machinery and equipment

Clean crop storage areas

Clean growing trays/storage boxes

Protect beneficial organisms

Other (specify)
B. Monitoring of harmful organisms
Use early warning/weather forecasting systems
Monitor crops for pests/diseases
Use weather forecast to aid decisions
Adviser monitors crops
Accurate pest and disease identification
Use traps/sticky pads/lures
Other (specify)……………………………………………………………………

C. Application of appropriate plant protection measures
Preventative treatments
Adviser-led decision
Decision making with adviser
Pest threshold decisions
Other (specify)……………………………………………………………………

D. Use of biological, physical or other non-chemical methods
Use natural enemies
Use crop fleeces
Use micro-organism plant protection products
Use crop netting
Use propane burners for weed control
Use manual methods
Use deterrents (bangers, kites etc.)
Use mechanical weeder
Use of topper/mower/cutter for weed control
Other (specify)……………………………………………………………………

E. Use of pesticides that are specific for the pest/disease
Applications usually for multiple pests
Resistance development is considered
Broad spectrum products avoided
Different modes of action considered
Different products considered
Consider subsequent crops
Economics are considered
Familiar with different product labels
Buffer zones are adhered to
Well maintained application equipment used
Spray drift reduction methods
Use air-assisted sprayer
Use weed wiper for weed control
Use adviser to help decide on product(s)
Avoid pesticide use where bees are foraging
Other (specify) ........................................................................................................

F. Use of pesticides at required levels
Use appropriate application rates
Use adjuvants to reduce pesticide use
Applications timed to minimize use
Reduce frequency of application
Partially treat/spot spray fields
Other (specify) ........................................................................................................

G. Use of anti-resistance strategies to maintain product effectiveness
Use products with multiple modes of action
Use appropriate rates of pesticides
Use tank mixes with multiple modes of action
Keep informed of resistance development
Other (specify) ........................................................................................................

H. Checking and recording the success of the applied crop protection measures
Success or failure of intervention measured
Success or failure of intervention recorded
Crop yields /disease and pest incidences recorded
Results discussed with adviser
Member of discussion group
Other (specify) ........................................................................................................
ANNEX E

E&S Assessment Guideline
ANNEX E - ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESA) TEMPLATE

This template provides high-level guidance on the elements to be included in the further documentation required for projects classified into Category B+ per the Environmental and Social Categorization Checklist (Annex C). This template should be used for Category B+ projects that require to undergo an Environmental and Social Assessment (ESA) after confirmation of categorisation by PATRIP Foundation. For other project Categories specific reports (chapters of this document) should be used base on the impacts triggered as advised in the Screening and Categorization Checklist.

It is the responsibility of the Implementation Partner to provide sufficient and qualified environmental and social (E&S) capacities (either in-house or external) to complete this document.

The following sections include instructions and information on the content and input that needs to be provided/obtained by the party completing the further studies/documentation which are highlighted in grey and italics.

As a rule, this template is intended to give guidance on the elements that need to complement the generic Environmental and Social Management Plan (ESMP) to ensure sufficient assessment of the E&S impacts of the project. However, structure and content can be modified as necessary by the party completing the template to address the identified risks as deemed suitable by best professional judgement and therefore should not be seen as compulsory. In other words, such an E&S Assessment need only contain those sections that are applicable for the project and to a level of detail that is appropriate for describing the relevant E&S topics identified during the screening exercise.
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1.1 PROJECT INFORMATION 3
1.2 ANALYSE OF ALTERNATIVES 3
1.3 LAND ISSUES 3

2 E&S ASSESSMENT JUSTIFICATION 3

3 APPLICABLE STANDARDS 4

4 BASELINE CONDITIONS 4
4.1 INTRODUCTION 4
4.1.1 Purpose 4
4.1.2 Sources of information 4
4.2 PHYSICAL ENVIRONMENT 5
4.3 BIOLOGICAL ENVIRONMENT 5
4.4 HUMAN, SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT 5

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5.1 PREDICTION AND ASSESSMENT OF IMPACTS 6
5.2 RECOMMENDED MITIGATION MEASURES 6
5.3 RESIDUAL IMPACT ASSESSMENT CONCLUSIONS 6

6 KEY FINDINGS OF STAKEHOLDER ENGAGEMENT 7

7 MANAGEMENT & MONITORING 7
1. **INTRODUCTION & BACKGROUND**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Exact Location:</td>
<td></td>
</tr>
<tr>
<td>Implementation Partner:</td>
<td></td>
</tr>
<tr>
<td>Project Description:</td>
<td></td>
</tr>
<tr>
<td>- Objective and need for/ purpose of the project</td>
<td></td>
</tr>
<tr>
<td>- Infrastructure to be built and its exact location, including associated facilities (temporary such worker camps and/or permanent) as relevant. This should include a location map where possible.</td>
<td></td>
</tr>
<tr>
<td>- Give an overview of the envisaged schedule, stakeholders involved in the project.</td>
<td></td>
</tr>
</tbody>
</table>

**Permitting Obligations Associated with this Project**

List all permits that need to be granted by the administration of the host country to authorise the project, provide status of the document (incl. if the obligation has been lifted) and information of steps to be taken to receive authorisation to implement the project – if any

<table>
<thead>
<tr>
<th>Document</th>
<th>Status</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E&S Assessment prepared by: name date signature

Justify how the project was designed in terms of trace/sitting, technology. Was another site available? How was the site chosen? Did other means to achieve project goals were envisaged etc.

Displacement issues if relevant are to be covered by a dedicated Land Acquisition and Compensation Plan available in ES Policy Annexe H. If not relevant, delete this sub-section.

2. **E&S ASSESSMENT JUSTIFICATION**

E&S risks and impacts that need to be further assessed in this report have been identified during the screening and categorization exercise. The justification for ESA are:

- Insert here criteria for Categorization of the project in Category B+ project as per Screening and Categorization Checklist: e.g. new land use more than 2ha, loss of livelihoods, project in high ecological value land etc.
This stage is intended to ensure that the ESA focuses on those issues that are most important for design, decision-making and stakeholder interest and will be subject to a further E&S assessment. The topics triggered are:

- Insert here ONLY the topics that will be further analysed in this ESA based on the Categorisation Checklist choosing from the following:

  Type/Size of project, H&S (occupational and community) issues, land use and ownership justification (private/community), land acquisition/loss of livelihood, indigenous peoples/cultural heritage etc.

3. **APPLICABLE STANDARDS**

This ESA aims to help the project to achieve compliance with the E&S standards set in PATRIP Foundation E&S Policy. Those standards are:

- National legal environmental and social requirements incl. labour

  To be completed as needed by references related to ESA triggering topics

- KfW Sustainability Guidelines requirements, which encompasses acceptable international standards such as World Bank Group Sustainability Framework as well as relevant Environmental Health & Safety Guidelines for the purpose of the project.

4. **BASELINE CONDITIONS**

This section describes the environmental and social baseline conditions in the project area with focus primarily on what might be affected or could affect the project and already identified in Chapter 2.

4.1.1. **Purpose**

To provide a context within which the impacts of the project can be assessed, a description of physical, biological, human / socio-economic and cultural conditions (as applicable for this assessment) that would be expected to prevail within the project Study Area. The Baseline includes information on all E&S Topics that were identified during categorisation as having the potential to be significantly affected by the project.

4.1.2. **Sources of information**

This ESA is based on the following sources of information: delete or complete as applicable:

- Site visit: date, scope, persons met;
- Technical / Engineering documents: name, author, date;
• Publicly available source of information name, author, date of documents and/or websites;
• Consultation with key informants/ specialists name them: NGOs, Experts, Authorities, Universities, Consultants etc.;
• Sample analysis what, how, by whom, when, where;
• Professional Judgement;
• etc.

As applicable, for example:

Key landscape features: mountains, valleys, plains, points of special interest.
- Ecosystem types (alpine, continental).
- Hydrography: watershed, surface water bodies, groundwater.
- Climate and meteorology (temperatures, storms, rains etc. that are important to consider).
- Natural resources with economical interest (mines, forests, etc.).

As applicable, for example:

- Biodiversity: flora/fauna species found in the area with their respective protection status as per national and international (IUCN Red List or similar) standards.
- Any habitat fragile or needing specific consideration in the area (wetlands, forests, nesting areas).
- Location of the next protected areas or buffer zones per national or international status.

As applicable, for example:

- Demographic data: population, ethnicity, religion, age.
- Villages, dwellings, social infrastructure in the area.
- Utilities (power, roads/tracks, health/education/administration infrastructure, water and sanitation etc.).
- Main economic activities in the areas / livelihoods patterns.
- Livelihood associated natural resources (agriculture, grazing areas, forest, fishing, hunting, mines) with economic interest to be considered (ecosystem services).
- Places of spiritual, social, cultural, religious or historical/archaeological interest to be considered in the area.
- Human challenges to be considered (conflicts, threats).
- Any other projects that could be either influence this project, be influenced by this project or lead to similar impacts on the receptors.
5. **IMPACT ASSESSMENT**

The impact assessment should be done in a consistent manner per the following methodology for the identified relevant topics (e.g. impacts on water bodies due to hazardous wastes) during the baseline description:

- **Impact assessment**: to determine if the project and the associated activities could potentially impact the resources/receptors, to evaluate the significance of the predicted impacts by considering their magnitude and likelihood of occurrence, the sensitivity, value and/or importance of the affected resource/receptor. Transboundary and cumulative impacts should be identified during this stage (IF ANY).

- **Mitigation and enhancement**: to identify appropriate and justified measures to mitigate negative impacts and enhance positive impacts.

- **Residual impact evaluation**: to evaluate the significance of impacts assuming effective implementation of mitigation and enhancement measures.

Describe here for each identified topic:

- How the project is likely to adversely affect the different components of the environment and which benefits could potentially be raised by the project?
- How the environment may be affected by the project?
- How the project is likely to contribute to cumulative impacts (cumulated effects originating from different activities that would have similar impacts on same receptors)?
- Please consider here any transboundary adverse impacts that could result from the project

Evaluate the significance of the predicted impacts by considering their magnitude and likelihood of occurrence, and the sensitivity, value and/or importance of the affected resource/receptor.

Identify appropriate and justified measures to mitigate negative impacts and enhance positive impacts

Determine the relevant Mitigation Measures for the project-specific ESMP.

Insert a discussion of the outcome of the assessment once mitigation measures are assumed to have been applied and if specific impacts cannot be mitigated or outstanding impacts remain despite the measures applied. The discussion should be clear about which aspects of the impact have been affected by the implementation of the specific mitigation measure.
6. **KEY FINDINGS OF STAKEHOLDER ENGAGEMENT**

The purpose of stakeholder engagement is to allow for stakeholders to interact with the decision making process, express their views and influence mitigation and technical solutions to concerns voiced during the process.

Following concerns and suggestions were identified within stakeholder engagement and will be considered by the implementation partner and/or its contractor(s) if any:

<table>
<thead>
<tr>
<th>Concern/Suggestion</th>
<th>Stakeholder</th>
<th>Responses by the Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>What?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Mitigation Measure</th>
<th>Responsibility</th>
<th>Monitoring</th>
<th>Indicator</th>
</tr>
</thead>
</table>

*Provide the additions to the project-specific ESMP including responsibilities and monitoring requirements.*
ANNEX F

Incident Reporting Template
<table>
<thead>
<tr>
<th>General Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name, Activity, Country</td>
</tr>
<tr>
<td>Name of project Implementing Partner</td>
</tr>
<tr>
<td>Name of Consultant, Contractor, Company and Subcontractors</td>
</tr>
<tr>
<td>Name, position and company of main person(s) involved with/ causing the Incident</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details about Accident/ Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and Time of Incident</td>
</tr>
<tr>
<td>Location of Incident</td>
</tr>
<tr>
<td>Type of Incident</td>
</tr>
<tr>
<td>Detailed Description of Incident (attach photos if needed)</td>
</tr>
<tr>
<td>Describe victims and damage</td>
</tr>
<tr>
<td>Describe immediate response</td>
</tr>
<tr>
<td>Describe long-term response</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incident Report Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
</tr>
<tr>
<td>Prepared by</td>
</tr>
<tr>
<td>Approved by</td>
</tr>
</tbody>
</table>
ANNEX G

Grievance Form Template
# Grievance Form

**Reference No:**

**Full Name:**

<table>
<thead>
<tr>
<th>Name</th>
<th>I want to remain anonymous</th>
</tr>
</thead>
</table>

**Please mark how you wish to be contacted (mail, telephone, e-mail).**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>By phone:</td>
<td>_______________________________</td>
</tr>
<tr>
<td>By Telephone (Please provide Telephone number):</td>
<td>_______________________________</td>
</tr>
<tr>
<td>By E-mail:</td>
<td>_______________________________</td>
</tr>
<tr>
<td>Other:</td>
<td>_______________________________</td>
</tr>
<tr>
<td>I don’t want to be contacted</td>
<td></td>
</tr>
</tbody>
</table>

**Preferred Language for communication**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>… IP to include languages spoken in the region…</td>
<td></td>
</tr>
<tr>
<td>… IP to include languages spoken in the region…</td>
<td></td>
</tr>
<tr>
<td>Other, please specify:</td>
<td>_______________________________</td>
</tr>
</tbody>
</table>

**Description of Incident or Grievance:**

*What happened? Where did it happen? Who did it happen to? What is the result of the problem?*

**Date of Incident/Grievance:**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>One time incident/grievance (date ____________)</td>
<td></td>
</tr>
<tr>
<td>Happened more than once (how many times? ____ )</td>
<td></td>
</tr>
<tr>
<td>On-going (currently experiencing problem)</td>
<td></td>
</tr>
</tbody>
</table>

**What would you like to see happen to resolve the problem?**
ANNEX H

Land Acquisition Compensation Plan
Annex H - LAND ACQUISITION COMPENSATION PLAN

1 PRINCIPLES AND DEFINITIONS

This Land Acquisition Compensation Plan (LACP) defines the following key principles for land acquisition and resettlement. Projects funded by PATRIP Foundation should anticipate and avoid economic impacts from land acquisition or restrictions on land use.

Land acquisition is basically not foreseen in PATRIP projects. Generally, projects have a limited footprint and/or are built on community land.

However, in the unforeseen event that land acquisition takes place (for instance by changing project location during implementation phase for external reasons), IP need to minimize adverse social and economic impacts using this LACP as a guide and PATRIP shall immediately notify KfW E&S team for consultation and discussion of next steps.

The goal of LACP is to set principles to improve or, at a minimum, to restore the livelihoods and standards of living of displaced persons to pre-project levels.

Displacement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or means of livelihood). Assets that can be impacted by infrastructure development requiring land acquisition can include:

- Community assets
- House, temporary shelter, commercial building
- Cultural goods such as graves or sacred objects
- Agriculture fields, grazing areas
- Natural resources: field, trees, fishing areas

Where land acquisition is unavoidable, define and implement measures to ensure that the affected persons are:

- informed about their options and rights, consulted, offered choices and provided with technically and economically feasible resettlement alternatives;
• provided with fair, prompt and effective compensation at full replacement value for losses of assets attributable directly or indirectly to the project.
• compensated and relocated (if applicable) before start of construction activities.
• both legal and official owners, in-official owners (without title deed) or users of land are considered.
• provided with assistance (technically and in-kind compensation) during relocation.
• assisted in their efforts to ideally improve their livelihoods and standards of living or at least to restore them to the level before resettlement.
• ensure that affected land owners are provided with written agreements of the negotiated compensation in place, with the objective that the affected land owners have understood their rights and what they signed.

Special attention should be given to most vulnerable and poor people, including indigenous people.

NB: LACP may not be applicable for landmine clearance activities.

2 COMPENSATION ELIGIBILITY AND ENTITLEMENTS

The Implementation Partner must identify for each impacted asset:

• Affected people including gender, age, vulnerability, status
• Rights of affected people toward the impacted assets (legal or informal rights)
• Measure the economic impacts of the asset loss in terms of loss of asset, loss of productivity (temporary and permanent), loss of access to resources or services, loss of opportunities.

The Implementation Partner must establish cut-off date for end for the census and communicated it to all potentially affected people.

The compensation principles must include:

• compensation standards will be transparent and systematically applied to all individuals and communities affected by the project;

---

1 A financial compensation should be avoided in any case, based on the recommendations and experiences of our partners.
• the indemnifications must compensate the losses of assets at full replacement cost;
• fully impacted land and loss of income from land use will be offset by land provision ("land-for-land" compensation);
• loss of income sources must be replaced so that the impacted person will return to a standard of living at least equivalent to that before displacement;
• Land is not available for the project until the owners have been fully compensated.

Note that, as recommended by PATRIP Implementation Partners, cash compensation should not be considered to prevent disputes and jeopardize the positive impacts of the project. In-kind compensation must be considered as first priority followed by alternative compensation measures.

The entitlement matrix in the Standard LACP (see Appendix) shows examples of good practice for replacement of lost assets within land acquisition process.
Appendix – Standard LACP

Purpose

<Name of the Implementing Partner> is planning to construct a <Name of the intervention, e.g. school, water distribution system etc.> (“the project”). The project will be constructed at a site in <Name of location/village/country>. The construction activities will be executed by the construction contractor (Contractor) <Name of the Contractor> with the following sub-contractors: <Name of the sub-contractors if known already>.

The purpose of this Land Acquisition and Compensation Plan (LACP) is to identify the households affected by land acquisition through the project and to define suitable mitigation, compensation and other forms of support to them. The objective is to assist the affected households in developing their social and economic potential and to improve or at least restore their incomes and living standards to pre-project level.

This document provides information on:

- Land acquisition planned for the project;
- Expected socio-economic impacts and groups of affected households;
- The Entitlement Matrix in tabular format with details on entitlements to compensation measures under the provisions of this LACP, referring to different impacts;
- Provisions, responsibilities and processes to implement the LACP; and
- Timeframe of expropriation and LACP implementation.

Project Description

Include a short project description based on available documentation and site observations (in alignment with the overall project Environmental and Social Management Plan (ESMP) if existent) including project context and project activities.

Include a map of the area with the planned project and affected lands.

Explain how acquisition of private land was strived to be avoided and why this attempt was not successful.

Affected Land

Include a short description of the households, land or resources affected:

- Amount of land affected by acquisition
- Current land use
• Income sources and general socio-economic situation of the affected household(s)

• Types of impact (e.g. permanent loss of land, temporary loss of land, loss of access to land, loss of income, resettlement etc.)

• Types of affected households (land owner with a formal land title, land owner without a formal land title land user, community land etc.)

Compensation Approach

Include a description of the compensation approach. This can be done in form of the Entitlement Matrix (see Table below). This table shall include compensation packages for each affected household and needs to be treated confidential. The compensation packages need to be negotiated with the affected households and properly documented, including information on available options and rights.

Entitlement Matrix (Example)

NB: A financial compensation should be avoided in any case.

<table>
<thead>
<tr>
<th>Loss</th>
<th>Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of Building/</td>
<td>• Replacement house for house lost, where possible.</td>
</tr>
<tr>
<td>House</td>
<td>• The right to salvage materials from the displaced house.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of land, crops</td>
<td>• Land for land compensation where possible</td>
</tr>
<tr>
<td>and trees</td>
<td>• In-kind compensation for lost crops (based on age and type of crops).</td>
</tr>
<tr>
<td></td>
<td>Where no replacement land available:</td>
</tr>
<tr>
<td></td>
<td>• In-kind compensation of lost assets at replacement value (including all</td>
</tr>
<tr>
<td></td>
<td>transaction fees)</td>
</tr>
<tr>
<td></td>
<td>• In-kind compensation for lost crops (based on age and type of crops)</td>
</tr>
<tr>
<td></td>
<td>• Priority for employment opportunities associated with the project</td>
</tr>
<tr>
<td></td>
<td>construction.</td>
</tr>
<tr>
<td>Loss of trees</td>
<td>• In-kind compensation at replacement value based on type, age and productive value of affected trees.</td>
</tr>
<tr>
<td>Loss of public land</td>
<td>• Land for land compensation where possible; OR</td>
</tr>
<tr>
<td></td>
<td>• In-kind compensation at replacement value (including all transaction fees).</td>
</tr>
<tr>
<td>Loss of businesses</td>
<td>• Resettlement assistance: Provide assistance with relocation, and cover</td>
</tr>
<tr>
<td></td>
<td>all the costs of moving any salvageable parts of existing structures and</td>
</tr>
<tr>
<td></td>
<td>reinstallation and start-ups.</td>
</tr>
<tr>
<td></td>
<td>• Economic rehabilitation assistance: Provide assistance to restore business</td>
</tr>
<tr>
<td></td>
<td>including training and capacity building if deemed appropriate.</td>
</tr>
<tr>
<td>Waged employment. e.g. traders,</td>
<td>• Employment opportunities during the construction works to offset jobs</td>
</tr>
<tr>
<td>employees</td>
<td>lost.</td>
</tr>
</tbody>
</table>
### Loss Compensation

<table>
<thead>
<tr>
<th>Loss</th>
<th>Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to natural resources. e.g. water sources, firewood</td>
<td>• Provision of alternative sources of natural resources accessible to the community before project works commence.</td>
</tr>
<tr>
<td>Loss of crops due to construction activities</td>
<td>• In-kind compensation for leasing the land temporarily.</td>
</tr>
<tr>
<td></td>
<td>• In-kind compensation for crops lost (based on age and type of crops).</td>
</tr>
<tr>
<td></td>
<td>• Priority for employment opportunities associated with the construction to offset losses.</td>
</tr>
<tr>
<td>Loss of trees due to construction activities</td>
<td>• In-kind compensation at replacement value based on type, age and productive value of affected trees.</td>
</tr>
<tr>
<td>“Orphan Land” Reduction of cultivation area on remaining land</td>
<td>• Land owner may ask to be expropriated to be able to seek for another piece of land elsewhere.</td>
</tr>
</tbody>
</table>

### Implementation Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Include an outline of the planned schedule for the land acquisition activities, e.g.

- Identify affected households
- Notify affected households
- Provide information on people’s rights
- Inform on compensation options and process
- Implement land acquisition/ sign purchase contracts
- Conduct resettlement (if any)
- Provide supporting measures for livelihood restoration
- Conduct Monitoring
Monitoring Arrangements

Include a description of how monitoring considerations are considered within the project. Specify responsibilities and timelines for monitoring.

Monitoring objectives are:

- Actions and commitments described in the LACP are implemented fully and on time;
- Affected households understand their rights;
- Vulnerable people have been assisted according to their special needs (illiterate, deaf, not able to walk);
- Eligible households receive their full compensation entitlements or other mitigation measures within the agreed time;
- Land acquisition compensation and livelihood support are effective with regard to the enhancement or at least the restoration of livelihoods;
- Complaints and grievances expressed/ submitted by affected households are followed up and resolved and that, where necessary, corrective actions are implemented;
- If necessary, changes in LACP are made to improve delivery of compensation/assistance to affected households; and
- All households are considered according to their entitlements.

Public Consultation

Land owners and users need to be sufficiently informed about the compensation process and individual rights. During the consultation, affected people need to be given the chance to raise concerns. Ensure to include marginalized and vulnerable groups in particular. The consultation process and outcomes need to be documented (e.g. minutes of meeting) and shared with the community.

Furthermore, land owners and users need to be informed about how to file grievances or how to take legal action against the land acquisition/ resettlement.

Include here records of consultations dedicated to land acquisition (similar as stakeholder engagement plan – Appendix of Annex D).

Roles and Responsibilities

Include an outline of responsibilities for the land acquisition, compensation (and resettlement) activities. Provide names and positions and also include external agencies if needed.
ANNEX I

Glossary of Terms
**GLOSSARY OF TERMS**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse impact</td>
<td>A negative change in the state of the surrounding environment, in whole or in part caused by human activities, resulting in environmental pollution, depletion of natural resources, damage, destruction of ecological systems by nature pose a real threat to human health and life, flora and fauna, material values.</td>
</tr>
<tr>
<td>Affected Community</td>
<td>Any community that is subject to actual or potential project-related positive or negative impacts on its social, physical, economic, cultural or natural environment. Such communities often include those located in the project's near geographical proximity, particularly those contiguous to the proposed project facilities. However, more distant communities may also be affected by project impacts, for example those communities where construction workers are housed. There is no exact definition of community, and it could vary from project to project, but in general terms it refers to a group of people or families who live in a particular locality, sometimes share a common interest (e.g., water users, fishers, herders, grazers, etc), often have common cultural and historical heritage and exhibit varying degrees of cohesiveness.</td>
</tr>
<tr>
<td>Alternatives</td>
<td>In EIA, an examination of alternative locations, methods, and techniques for a particular project, includes the alternative of not proceeding. It may be demonstrated that a project is not actually needed if demand-management approaches (for example, curbing the demand for water or electricity) are adopted or strengthened. At regional and national levels, a choice of polices, plans and programmes, may be presented, with a range of environmental impacts and mitigation measures.</td>
</tr>
<tr>
<td>Area of Influence</td>
<td>Area affected directly by project, indirectly by impacts from unplanned but predictable developments caused by project (may occur later or at different location), and indirect impacts on biodiversity and ecosystem services upon Affected communities’ livelihoods are dependent (IFC PS 1). Areas affected by associated facilities and cumulative impacts are included in this definition.</td>
</tr>
<tr>
<td>Associated Facilities</td>
<td>Facilities that are not funded as part of the project (funding may be provided separately by a client or a third party including the government), and whose viability and existence depend exclusively on the project and whose goods or services are essential for the successful operation of the project.</td>
</tr>
<tr>
<td>Barren Land</td>
<td>Land that is not constructed and not suitable for agriculture or similar use.</td>
</tr>
<tr>
<td>Baseline Data</td>
<td>The physical, biological, cultural and human conditions that will prevail in the absence of the project, including interactions amongst them. Studies conducted to establish the actual conditions at a specific period in time, to enable predictive and comparative studies to be conducted in the future in order to determine whether there is a predicted impact.</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>Variety of life on this planet and how it interacts within habitats and ecosystems. Biodiversity covers all plants, animals and micro-organisms on land and in water.</td>
</tr>
<tr>
<td>Chance Find Procedure</td>
<td>Project-specific procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered.</td>
</tr>
<tr>
<td>Child Labour</td>
<td>The employment of children in any work that deprives children of their childhood, interferes with their ability to attend regular school, and that is mentally, physically, socially or morally dangerous and harmful.</td>
</tr>
<tr>
<td>Classification of Habitats</td>
<td>The process of defining wildlife habitats by considering type of vegetation and landscapes a species uses, and specific attributes of the vegetation.</td>
</tr>
<tr>
<td>Community Health &amp; Safety</td>
<td>Health and safety of the Affected Community by a project during the project life from both routine and non-routine circumstances.</td>
</tr>
<tr>
<td>Community Labour</td>
<td>Labour provided by the beneficiary community as a contribution to the project, or where projects are designed and conducted for the purpose of fostering community-driven development, providing a social safety net or providing targeted assistance in fragile and conflict-affected situations. Such labour can only be provided on a voluntary basis as an outcome of individual or community agreement.</td>
</tr>
<tr>
<td>Compensation</td>
<td>Payment in cash or in kind at the replacement cost of the acquired assets for the project.</td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>A unique and non-renewable resource that possesses cultural, scientific, spiritual or religious value and includes moveable or immoveable objects, sites structures, groups of structures, natural features, or landscapes that have archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values, as well as unique natural environmental features that embody cultural values, such as sacred groves.</td>
</tr>
<tr>
<td>Cumulative Impacts</td>
<td>The combination of multiple impacts from existing projects, the proposed project, and/or anticipated future projects that may result in significant adverse and/or beneficial impacts that would not be expected in case of a stand-alone project.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Data Collection</strong> (secondary/primary)</td>
<td>The process of gathering and measuring information on variables of interest, in an established systematic fashion. Primary data is information collected from sources such as e.g. personal interviews, questionnaires or surveys. Secondary data is already available information in sources such as journals, reports, governmental archives, etc.</td>
</tr>
<tr>
<td><strong>Deforestation</strong></td>
<td>The reduction of trees in a wood or forest due to natural forces or human activity such as burning or logging.</td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td>Economic displacement: loss of assets or access to assets that leads to loss of income sources or means of livelihood. Physical displacement: relocation or loss of shelter for individuals, communities.</td>
</tr>
<tr>
<td><strong>Displaced Persons</strong></td>
<td>People living in the project area that must move to another location. Displaced persons can be classified as persons 1) who have formal legal rights to the land they occupy; 2) who do not have formal legal rights to land, but have a claim to land that is recognized or recognizable under the national laws; or 3) who have no recognizable legal right or claim to the land they occupy.</td>
</tr>
<tr>
<td><strong>Disposal</strong></td>
<td>Final placement or destruction of toxic, radioactive, or other wastes; surplus or banned pesticides or other chemicals; polluted soils; and drums containing hazardous materials from removal actions or accidental releases.</td>
</tr>
<tr>
<td><strong>Ecological Flow</strong> (Environmental Flow)</td>
<td>Quantity, timing, and quality of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and well-being that depend on these ecosystems.</td>
</tr>
<tr>
<td><strong>Ecosystem</strong></td>
<td>The plants and animals of an ecological community, and their environment, forming an interacting system of activities and functions regarded as a unit. There are innumerable ecosystems: for example, marine, fresh-water, terrestrial, forest, and grassland. All ecosystems together comprise the biosphere, that part of the Earth’s crust and atmosphere inhabited by living things.</td>
</tr>
<tr>
<td><strong>Ecosystem Services</strong></td>
<td>Benefits that people gain from the natural environment and from properly-functioning ecosystems. Four kind of benefits are usually considered: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and oxygen production; and cultural, such as spiritual and recreational benefits.</td>
</tr>
<tr>
<td><strong>Emissions</strong></td>
<td>In the context of the atmosphere, gases or particles released into the air that can contribute to global warming or poor air quality.</td>
</tr>
<tr>
<td><strong>Endangered species</strong></td>
<td>Fauna and flora likely to become extinct as a result of direct exploitation by humans, intrusion into highly specialized habitats, threats from other species, interruption of the food chain, pollution, or a combination of such factors.</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td><strong>Environment</strong></td>
<td>A concept which includes all aspects of the surroundings of humanity, affecting individuals and social groupings. The EC has defined the environment as “the combination of elements whose complex inter-relationships make up the settings, the surroundings and the conditions of life of the individual and of society, as they are so as they are felt.” The environment may be regarded as a parcel of things which render a stream of beneficial services and some disservices to people, though largely unpriced, and which take their place alongside the stream of goods and services rendered by real income, houses, infrastructure, transport, and other people.</td>
</tr>
<tr>
<td><strong>Environmental management</strong></td>
<td>A concept of care applied to individual premises, corporate enterprises, localities, regions, catchments, natural resources, areas of high conservation value, lifetime cycles, waste handling and disposal, cleaner processing and recycling systems, with the purpose of protecting the environment in the broadest sense. It involves the identification of objectives, the adoption of appropriate mitigation measures, the protection of ecosystems, the enhancement of the quality of life for those affected, and the minimization of environmental costs.</td>
</tr>
<tr>
<td><strong>Environmental &amp; Social Management System</strong></td>
<td>Set of policies, procedures, tools and internal capacity to identify and manage a financial institution's exposure to the environmental and social risks of its clients/investees.</td>
</tr>
<tr>
<td><strong>Environmental and social impact assessment</strong></td>
<td>A process for predicting and assessing the potential environmental and social impacts of a proposed project, evaluating alternatives and designing appropriate mitigation management and monitoring measures.</td>
</tr>
<tr>
<td><strong>Environmental &amp; Social Management Plan</strong></td>
<td>A set of proper measures and controls to decrease the potential for environmental degradation during all phases of the project, and to provide clearly defined action plans and emergency response procedures to account for human and environmental health and safety.</td>
</tr>
<tr>
<td><strong>Flora and fauna</strong></td>
<td>The plants and animals that can be found in a particular area or at a particular period of time.</td>
</tr>
<tr>
<td><strong>Forced Labour</strong></td>
<td>Any work or service not voluntarily performed that is exacted or coerced from a person under threat of force or penalty. Forced labour includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour arrangements. Prison labour should also be considered forced labour unless the prison inmate volunteers for work assignments.</td>
</tr>
<tr>
<td><strong>Grievance Mechanism</strong></td>
<td>Mechanism to receive and facilitate resolution of concerns and grievances about the organization’s environmental and social performance. Mechanism for workers (and their organizations, where they exist) to raise reasonable workplace concerns. Mechanism to receive and address specific concerns about compensation and relocation that are raised by displaced persons or members of host communities.</td>
</tr>
<tr>
<td><strong>Ground water</strong></td>
<td>Water that collects or flows underground in the small spaces in soil and rock. It might be a source of water for springs and wells and then used for drinking water.</td>
</tr>
<tr>
<td><strong>Habitat</strong></td>
<td>All elements, which collectively make up the place in which organisms, creatures or humans live. Habitat includes non-living influences such as soils, light, temperature, humidity and other abiotic factors; and biotic factors dependent on the activities of individuals and communities.</td>
</tr>
<tr>
<td><strong>Hazardous waste</strong></td>
<td>Waste that poses a risk to human health or the environment and needs to be handled and disposed of carefully. Examples include oil-based paints, car batteries, weed killers, bleach and waste electrical and electronic devices.</td>
</tr>
<tr>
<td><strong>Hydraulic Regimes</strong></td>
<td>Variations in state and characteristics of a water body which are regularly repeated.</td>
</tr>
<tr>
<td><strong>Impact (environmental and social)</strong></td>
<td>Any alteration of existing conditions, adverse or beneficial, caused directly or indirectly by the project. The consequences of economic and other planned activities for the environment, affecting the health and safety of the population, flora and fauna, soil, atmospheric air, land and resources, climate, landscape, monuments of historical and cultural heritage, other material objects or their relationship, as well as socio-economic conditions.</td>
</tr>
<tr>
<td><strong>Indigenous people</strong></td>
<td>Distinct social and cultural group possessing the following characteristics:</td>
</tr>
<tr>
<td></td>
<td>• Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;</td>
</tr>
<tr>
<td></td>
<td>• Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;</td>
</tr>
</tbody>
</table>
- Customary cultural, economic, social, or political institutions that are separate from those of the mainstream society or culture; or
- A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

<table>
<thead>
<tr>
<th><strong>Involuntary Resettlement</strong></th>
<th>Resettlement is involuntary when it occurs without the informed consent of the displaced persons or if they give their consent without having the power to refuse resettlement.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Acquisition</strong></td>
<td>Process whereby a person involuntarily loses ownership, use of, or access to, land as a result of the project. Land acquisition can lead to a range of associated impacts, including loss of residence or other fixed assets (fences, wells, tombs, or other structures or improvements that are attached to the land)</td>
</tr>
<tr>
<td><strong>Land Donation</strong></td>
<td>Voluntary contribution to a project in form of land.</td>
</tr>
<tr>
<td><strong>Land use change</strong></td>
<td>Human alteration of landscapes from natural status to any other use, which can result in habitat loss, degradation, and fragmentation, potentially affecting biodiversity.</td>
</tr>
<tr>
<td><strong>Livelihood</strong></td>
<td>Means of securing the necessities of life such as food, water, shelter, security and clothing.</td>
</tr>
<tr>
<td><strong>Livelihood Restauration</strong></td>
<td>All means for re-establishing income sources and livelihoods of project-affected households to a minimum of the pre-project level.</td>
</tr>
<tr>
<td><strong>Medical Waste</strong></td>
<td>Waste generated by health care and medical research facilities and laboratories which can include infectious waste, pathological waste, sharps, chemicals, Pharmaceuticals, genotoxic waste, radioactive waste and non-hazardous or general waste.</td>
</tr>
<tr>
<td><strong>Mitigation Measure</strong></td>
<td>Action to reach elimination, reduction or control of the adverse environmental and social impact of a project; restitution by replacement, restoration, compensation or other means for damage to the environment caused by the impact.</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>A combination of observation and measurement for the performance of a project and its compliance with development consent conditions. Instrumentation might be required in relation to air, water, and land pollutants; noise and blasting; radiation; transportation movements; and land subsidence. Records might be required for materials movements, raw materials, products, wastes, complaints and investigations, instrument and analysis results.</td>
</tr>
<tr>
<td><strong>Natural resources</strong></td>
<td>Natural sources for human consumption (land, water, forests, minerals, the reserves of minerals, radioactive materials, flora and fauna, their components and other environmental benefits)</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td><strong>Occupational Health &amp; Safety</strong></td>
<td>Comprehensive set of targets and measures to ensure safety, health, and welfare of people at work.</td>
</tr>
<tr>
<td><strong>Protected Area</strong></td>
<td>Protected areas or conservation areas are locations, which receive protection because of their recognized natural, ecological or cultural values. Protected area status vary by level of protection depending on the enabling laws of each country or the regulations of the international organizations involved.</td>
</tr>
<tr>
<td><strong>Protected Species</strong></td>
<td>Protected Species receive protection because of their recognized natural and ecological value. Protected species status vary by level of protection depending on the enabling laws of each country or the regulations of the international organizations involved.</td>
</tr>
<tr>
<td><strong>Rehabilitation Project</strong></td>
<td>Rebuild or improvement of an existing facility /infrastructure without additional land use.</td>
</tr>
<tr>
<td><strong>Resettlement</strong></td>
<td>All measures taken to mitigate any and all adverse impacts of a project on PAP property and/or livelihood’s, including compensation, relocation (where relevant) and rehabilitation as needed.</td>
</tr>
<tr>
<td><strong>Resource</strong></td>
<td>An element of the physical, biological, cultural or human environment which is not a human or other animal (these are referred to as receptors) which can be impacted by the project activities.</td>
</tr>
<tr>
<td><strong>Risk assessment</strong></td>
<td>The qualitative and quantitative evaluation performed in an effort to define the risk posed to human health or the environment by the presence or potential presence and use of specific pollutants.</td>
</tr>
<tr>
<td><strong>Sexual Exploitation, Abuse and Harassment (SEAH)</strong></td>
<td>Sexual abuse is defined as actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions. Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. Sexual harassment is defined as any form of unwanted verbal, non-verbal or physical conduct of a sexual nature with the purpose or effect of violating the dignity of a person, in particular when creating an intimidating, hostile, degrading, humiliating or offensive environment.</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Any and all individuals, groups, organizations, and institutions interested in and potentially affected by a project or having the ability to influence the project.</td>
</tr>
<tr>
<td><strong>Stakeholder Engagement</strong></td>
<td>On-going process involving disclosure of information, consultation with affected communities, and the establishment of a grievance mechanism.</td>
</tr>
<tr>
<td><strong>Supply Chain</strong></td>
<td>All organizations, activities, and processes associated with all stages of the business processes involved in the planning, sourcing, processing, manufacturing, and delivery of goods and services.</td>
</tr>
<tr>
<td><strong>Surface water</strong></td>
<td>Water that is collected on the ground or in a stream, river, lake, wetland or ocean.</td>
</tr>
<tr>
<td><strong>Transboundary Impacts</strong></td>
<td>Impacts that extend to multiple countries, beyond the host country of the project, but are not global in nature. Examples include air pollution that extends to multiple countries or use or pollution of international waterways.</td>
</tr>
<tr>
<td><strong>UNESCO World Heritage Site</strong></td>
<td>A natural or man-made site that has outstanding universal value and meets at least one of 10 conditions decided by UNESCO, the United Nations Educational, Scientific and Cultural Organisation.</td>
</tr>
<tr>
<td><strong>Vulnerable Groups</strong></td>
<td>Individuals or groups who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to ethnicity, gender, language, religion, political views, dependence on natural resources, sickness or disability or other factors.</td>
</tr>
<tr>
<td><strong>Waste</strong></td>
<td>Any substances, materials and objects that are formed in the process of human activity and are not suitable for further use in the field of education or to detect and from which the owner intends to get rid of them by use or disposal.</td>
</tr>
<tr>
<td><strong>Waste management</strong></td>
<td>The management of waste collection, handling, processing, storage and transport from where it is produced to where it is finally disposed.</td>
</tr>
<tr>
<td><strong>Wetlands</strong></td>
<td>An area that is regularly saturated by surface water or groundwater and is subsequently characterized by a prevalence of vegetation adapted for life in saturated soil conditions. Examples include lakes, swamps, bogs, fens, marshes, and estuaries, rivers.</td>
</tr>
</tbody>
</table>