AGA KHAN FOUNDATION

UNOPS

# Afghanistan Water Emergency Relief Project

(P179311)

## Environmental and Social Management Framework (ESMF)

**12 December 2024**

## List of Acronyms and Abbreviations

| | |
|---|---|
| AKF | Aga Khan Foundation |
| CDC | Community Development Committee |
| CRG | Community Representative Group |
| CEDAW | Convention on the Elimination of All forms of Discrimination against Women |
| CoC | Code of Conduct |
| CRC | Conventions on the Rights of the Child |
| CSO | Civil Society Organization |
| E&S | Environmental & Social |
| EA | Environmental Audit |
| EHS | Environment, Health and Safety |
| EIA | Environmental Impact Assessment |
| ESCP | Environmental and Social Commitment Plan |
| ESHS | Environmental, Social, Health and Safety |
| EHSG | Environmental Health and Safety Guidelines |
| ESIRT | Environmental and Social Incident Reporting |
| ESRC | Environmental and Social Risk Classification |
| ESF | Environmental and Social Framework |
| ESS | Environmental and Social Standard |
| ESMF | Environmental and Social Management Framework |
| ESMP | Environmental and Social Management Plan |
| GBV | Gender-Based Violence |
| GHG | Greenhouse gases |
| GIIP | Good International Industrial Practices |
| GRM | Grievance Redress Mechanism |
| HIV / AIDS | Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome |
| ICSC | International Chemical Safety Cards |
| IPV | Intimate Partner Violence |
| ISR | Implementation Support and Reporting |
| IUCN | International Union for Conservation |
| ITA | Interim Taliban Administration |
| LMP | Labor Management Procedures |
| M&E | Monitoring & Evaluation |
| MIS | Digital Information System |
| MSDS | Materials Safety Data Sheets |
| NGO | Non-Governmental Organization |
| NEPA | National Environmental Protection Agency |
| OHS | Occupational Health and Safety |
| O&M | Operations & Maintenance |
| OP | Operational Policy |
| PAD | Project Appraisal Document |
| PESC | Private Energy Service Company |

| | |
|---|---|
| PDO | Project Development Objective |
| PIE | Project Implementing Entities |
| PIU | Project Implementation Unit |
| POM | Project Operations Manual |
| PPE | Personal Protective Equipment |
| PSEA | Prevention of Sexual Exploitation and Abuse |
| PWD | Person with Disability |
| SEA | Sexual Exploitation and Abuse |
| SEP | Stakeholder Engagement Plan |
| SH | Sexual Harassment |
| SMP | Security Management Plan |
| SOP | Standards Operating Procedure |
| SRA | Security Risk Assessment |
| STD | Sexually-Transmitted Disease |
| TDS | Total Dissolved Solids |
| TPMA | Third Party Monitoring Agent |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNICEF | United Nations Children's Fund |
| UNOPS | United Nations Office for Project Services |
| USAID | United States Agency for International Development |
| VAWG | Violence against Women and Girls |
| WASH | Water, Sanitation and Hygiene |
| WB | World Bank |
| WERP | Water Emergency Relief Project |

# Executive Summary

The project development objective (PDO) of the Water Emergency Relief Project (WERP) is to improve access to safe drinking water and irrigation water services in selected rural areas. The project consists of four components: Component 1: Provision of emergency water supply in identified rural areas; Component 2: Improved surface water irrigation using solar technologies in selected rural areas; Component 3: Technical training and public awareness campaigns; and Component 4: Implementation Support.

To comply with the World Bank ESS1 and other relevant ESSs as well as relevant national laws, the Aga Khan Foundation USA and the United Nations Office for Project Services (UNOPS) have prepared and adopted this Environmental and Social Management Framework (ESMF) including Simplified Labor Management Procedures (LMP), Voluntary Land Donation (VLD) guidelines, Chance Find Procedures, an Integrated Pest Management Plan, capacity building and training plan as well as security risk mitigation measures. A Gender-Based Violence (GBV)/ Sexual Exploitation and Abuse (SEA)/ Sexual Harassment (SH) Action Plan, and a Stakeholder Engagement Plan (SEP) have been prepared separately. These E&S instruments are based on the commitments made in the respective Environmental and Social Commitment Plans (ESCPs).

The main objective of this ESMF is to establish procedures and methodologies for environmental and social screening and management, review, approval and implementation of investments to be financed through the WERP.

**Potential Environmental and Social Risks and Mitigation Measures**

The environmental and social risks are rated as 'Substantial' overall. The environmental risks and impacts are related to construction activities and may include generation of dust, noise, debris, waste products and vibrations at subproject sites; water pollution through increased sedimentation, potential eutrophication due to increased use of agrochemicals including fertilizers, oil spills, and camp sites close to canals, by returning polluted water from excessive use of fertilizers, soil erosion and sedimentation in case of unplanned abstraction of construction materials from fragile hilly and denuded upper areas; destabilization of river beds by extraction of sand and gravel in critical places damaging aquatic habitats, nearby bridges and agricultural lands; improper site restoration of borrow pits, extraction of construction materials, camp sites after completion of civil works; occupational health and safety issues of workers, due to exposure to hazardous chemicals and poor working conditions; potential electronic waste pollution due to inappropriate disposal of waste after solar energy installations; and opening of new wells without proper water quality assessment could potentially lead to arsenic poisoning as well as spread of other water borne diseases. The potential human security risks of incidents and accidents due to various factors and causes including the general context of the country and work-related OHS risks would be mitigated by the guidelines and tools of this ESMF, site-specific ESMPs, PMP, Human Security Assessment Framework, LMP, SEP documents as per the ESCP of the project, etc.

The key social risks and impacts include exclusion of vulnerable groups from accessing safe water and sanitation facilities; management of local expectations around employment in the project; the risk of resistance of the Interim Taliban Administration (ITA) on women's engagement in the participatory planning, design, and implementation process; sexual exploitation and abuse and sexual harassment (SEA/SH); non-compliance with labor and working conditions requirements, including the supply chain related project risks; modest labor influx; threats to human security through the escalation of personal,

communal conflict, crime or violence; forced labor associated with the polysilicon suppliers for solar powered water pump systems. The SEA/SH risk has been assessed as 'Moderate'. It is likely that the activities related to the provision of water and sanitation services in identified rural areas may induce SEA/SH risks.

**Implementation Arrangements**

AKF-USA and UNOPS are both contracted directly by the World Bank. AKF-USA will provide subsidiary agreements to three NGOs and to AKF Afghanistan to jointly deliver activities of Component 1 and 3 as Project Implementing Entities (PIE). UNOPS will be the grant recipient for Component 2 and will be responsible for the overall management of Private Energy Service Companies (PESCs) for the implementation of Component 2 activities.

**Grievance Redress Mechanism**

In compliance with ESS10, a Project Grievance Redress Mechanism (GRM) has been designed to facilitate responses to concerns and grievances of the project-affected people and parties related to the environmental, social and Occupational Health and Safety (OHS) performance of the project as well as other project-related concerns. The project will provide mechanisms to receive and facilitate resolutions to such concerns. As per World Bank standards, the GRM would be responsive to SEA/SH cases with activities further detailed in the SEA/SH Action Plan, which is presented as a separate document. The GRM is detailed in the Preliminary Stakeholder Engagement Plan (SEP).

**Monitoring**

A comprehensive monitoring and evaluation (M&E) system to monitor progress towards the PDO and expected results has been developed. A capacity building and training program for both the beneficiaries and the E&S staff has been elaborated and will be implemented early on in the project.

**Costs of ESMF implementation**

The estimated costs for the implementation of this ESMF are 1,508,000 USD. This estimated budget includes hiring of dedicated Environmental and Social (E&S) staff at AKF and UNOPS, training and capacity building activities, stakeholder consultation, implementation of SEA/SH Action Plan, implementing GRM, and monitoring and documentation of ESMF implementation by PESCs and PIEs.

# 1. Introduction

The project development objective (PDO) of the Water Emergency Relief Project (WERP) is to improve access to safe drinking water and irrigation water services in selected rural areas. The proposed project will leverage the existing functional community-led institutions to restore access to vital drinking water services and surface water irrigation services in selected rural communities most affected by the 2021 drought. The project will also pilot the private Energy-as-a-Service (EaaS) business model to support improved surface water irrigation services in these areas and help catalyze a market of private energy service companies (PESC) that can later expand off-grid renewable energy services for productive purposes and income generation in rural areas. The project will be financed by an ARTF grant of US$100 million. The Aga Khan Foundation (AKF) and UNOPS will jointly implement the project over a period of two years.

Since the specific details related to the physical location and the nature and footprints of the subprojects of the proposed components are not known at the early stages of preparation/implementation, the project has adopted a framework approach. The Environmental and Social Management Framework (ESMF) examines the potential environmental and social risks and impacts of a project and/or series of subprojects, when the risks and impacts cannot be determined until the activity or subproject details have been identified and prescribes procedures for the implementation of the mitigation measures following the generic Environmental and Social Management Plan (ESMP). In addition as per subproject site and environmental and social consideration and assessment, if there was a need identified this will apply and prepare site specific ESMP that has been included in Annex 1 of this ESMF.

The ESMF ensures that timely measures are in place in order to:

- Avoid or minimize any harm to human health and security;
- Avoid, reduce, mitigate, and or compensate any loss of livelihood;
- Avoid, minimize, mitigate, or compensate for any environmental degradation as a result of the interventions by projects;
- Enhance positive environmental and social outcomes;
- Ensure compliance with Afghanistan's legislations as well as with the World Bank's Environmental and Social Framework (ESF) and the World Bank Group General Environmental, Health and Safety Guidelines (EHSG[1]) .

It also establishes the Project's staffing and institutional arrangements clarifying the relations between AKF, UNOPS, IPs (Implementation Partners) and the World Bank, including each entities' roles and responsibilities in ensuring compliance with this ESMF and all other E&S instruments.

[1] https://documents1.worldbank.org/curated/en/157871484635724258/pdf/112110-WP-Final-General-EHS-Guidelines.pdf

## 2. Project Description and Institutional Arrangements

**Project Development Objective** (PDO): The PDO of this Project is to improve access to safe drinking water and irrigation water services in selected rural areas.

**Project Components**: The Project will be financed by an Afghanistan Reconstruction Trust Fund (ARTF) recipient-executed grant of US$100 million. The key components over two years include: Component 1: Provision of Emergency Water Supply in Identified Rural Areas; Component 2: Improve surface water irrigation using solar technologies in selected rural areas and groundwater recharge in drought-affected areas; Component 3: Technical Training and Public Awareness Campaigns; Component 4: Implementation Support.

**Beneficiaries**: The primary beneficiaries will be the rural population in the selected areas. The project will geographically prioritize 20 drought affected provinces covering approximately 120 districts that face severe constraints to access safe water and sanitation facilities. The estimated number of beneficiaries is around 1.2 million people. Other districts may be added under component two of the project where surface water and demand for services exist.

**Geographical Locations for component 1 and 3**: The Project will be implemented in 20 provinces and 120 districts such as: Badakhshan (NE) ; Baghlan (NE); Samangan (N); Balkh (N); Jawzjan (N); Faryab (N); Saripul (N); Bamyan (central highlands); Hirat (W); Badghis (W); Ghor (W); Farah (W); Nimroz (S); Parwan (Central); Panjshir (central); and Takhar (NE) Kunduz (NE); Paktika (SE); Ghazni (SE) and Zabul (S).

*Table 1 Geographical location of component 1*

| Province | District |
|---|---|
| **Badakhshan:** | Arghanjkhwa, Darwaz, Fayzabad, Khwahan, Kofab, Kohistan and Raghestan |
| **Baghlan:** | Andarab, Dahana-e-Ghori, Doshi, Khinjan, Khost Wa Firing and Pul-e-Hisar |
| **Samangan:** | Dara-e Sof-e-Bala, Feroznakhcher, Hazrat-e- Sultan and Roy-e-Doab |
| **Balkh:** | Balkh, Charbolak, Chimtal, Dawlatabad, Kaldar, Khulm, Kishindeh, Nahr-e- Shahi, Sharak-e-Hayratan, Shortepa and Zari |
| **Jawzjan:** | Aqcha, Darzab, Fayzabad, Khanaqa, Khwajadukoh, Mardyan, Mingajek and Qoshtepa |
| **Faryab:** | Shirentagab, Andkhoy, Bilcheragh, Garzewan, Khan-e-Char Bagh, Khwaja Sabzposh, Kohistan, Pashtonkot, Qaramqol and Qurghan |
| **Saripul:** | Gosfandi, Sancharak and Sozmaqala |
| **Bamyan:** | Bamyan, Kahmard, Panjab, Sayghan, Shebar and Yakawlang |
| **Hirat:** | Adraskan, Khushk, Ghoryan, Gulran, Injel, Karukh, Kohsan, Pashtonzarghon, Shindand and Zindajan |
| **Badghis:** | Abkamari, Ghormach, Murghab, Qades and Qala-e-Naw |
| **Ghor:** | Charsada, Dawlatyar, Dolayna, Pasaband, Saghar, Taywarah and Tolak |
| **Farah:** | Anardara, Lash-e-Juwayn, Qala-ye-Kah and Shebkoh |
| **Nimroz:** | Kang |
| **Parwan:** | Ghorband ( Siah Gerd), Jabalussaraj, Koh Safi and Shekhali |
| **Panjshir:** | Bazarak, Khinj (Hisa-e- Awal), Onaba(Anawa), Paryan, Rukha and Shutul |
| **Takhar:** | Bangi, Eshkamesh, Namakab and Rostaq |
| **Kunduz:** | Aqtash, Dasht-e-Archi, Gul Tapa, Khan Abad and Qala-e-Zal |

| Province | District |
|---|---|
| **Paktika:** | Chahar baran, Dila, Gomal, Jani Khel, Khoshmand, Shakeen and Wazakhwah |
| **Ghazni:** | Ab Band, Gelan, Giro, Khogiani, Nawa and Zanakhan |
| **Zabul:** | Arghandab (Zabul), Daychopan, Khak Afghan, Mizan, Nawbahar and Syorai |

For component 2 geographical locations for irrigation schemes are Badakhshan, Badghis, Baghlan, Bamyan, Balkh, Ghor, Kunar, Kunduz, Nangarhar, Laghman, Nuristan, Takhar, Kapisa, Kandahar, Helmand, Pansjir (14 provinces). Geographical locations for groundwater recharge are Logar, Ghazni, Daykundi, Paktya/ Paktika, Zabul, Kandahar, Helmand, Nimroz, Farah, Faryab, Jawzjan, Kabul, Herat, Saripul, Uruzgan, Wardak, (14 provinces).

**Institutional Arrangements**: The project will be jointly implemented by the Aga Khan Foundation (Components 1 and 3), and by UNOPS (Component 2). For Components 1 and 3, AKF will appoint its AKF-USA as the Grant Recipient. AKF-USA establishes a Project Implementation Unit (PIU) in Kabul (Afghanistan). This PIU will be responsible for (i) overall project coordination through establishing a steering committee composed of WB, AKF, UNOPS, UNICEF, USAID, FAO and other major water sector practitioners to have regular exchange and communication to avoid possible duplication of efforts to achieve best use of resources from various donors; (ii) project implementation, including E&S risk management. AKF-USA engages AKF Afghanistan (AKF-A) and up to three NGOs (to be selected) as Project Implementing Entities (PIEs) by signing Subsidiary Agreements. These four PIEs will be responsible for delivering all Component 1 works and Component 3 WASH Hygiene Kits and public awareness campaigns in project target locations. The AKF-PIU will manage the four PIEs. AKF-USA, with its PIEs, will leverage their existing institutional arrangements with local Community Development Committees (CRGs), local private service providers, and contractors to deliver the works and hygiene campaigns on the ground. The PIU and its four PIEs will work with CRGsin the targeted geographies to identify and quantify water supply and irrigation needs and to scope and implement the project activities. In addition, women's sub-committees of the CRGswill be engaged and consulted on community priorities and the location of wells

UNOPS will be the grant recipient for Component 2. UNOPS will be responsible for the overall coordination, screening, selection, and contracting of PESCs. It will engage with communities, and manage fiduciary, environmental and social risk, quality assurance, monitoring, and reporting under this component. The UNOPS-PIU will be established, including staff supporting environmental and social risk management.

PESCs are companies already active in renewable energy with experience in implementing solar projects, including supplying, installing, and operating solar-powered systems. PESCs will be selected competitively by UNOPS through a prequalification process to ensure companies with adequate technical, operational, and financial capacity. PESCs will primarily provide solar generated power supply for surface water pumping services for irrigation, and they can also potentially offer energy services in several other areas, including lighting services for rural households, hospitals and health clinics. In addition, the CRGsand PESCs will be responsible for the future O&M of the water supply and solar powered irrigation assets.

# 3. Stakeholder Consultations

**Stakeholder Consultations to Date**: AKF and UNOPS have conducted brief consultations with national and regional staff and communities in the target geographies to document water sources and potential challenges of implementing in those communities (see Annex 8 for more detail). AKF conducted consultations with a variety of stakeholders in October and November 2022. During the stakeholder engagements the key points raised included the pre-qualification criteria and selection process of PSECs, concerns about cost-sharing requirements for PSECs and the critical importance of community buy-in. Furthermore, AKF documented water sources and potential challenges of implementing activities in selected communities.

UNOPS conducted additional stakeholder consultations after the effective date, in August and September 2023. Consultations were held online and through in person meetings with local NGOs and PSECs at national and regional levels. Issues raised during the consultations included the challenges of solar water provision in some communities and environmental concerns that it could lower the groundwater level in the long term. Caution was raised that solar installations may only operate when there is sufficient sun. The Project will address this by only selecting sites with year-round running water. Furthermore, it will not select sites that have negative impacts on downstream beneficiaries/communities. The stakeholders welcomed the project initiatives. NGOs operating in the sector emphasized that in-depth stakeholder engagement will be required and solid information needs to be provided to communities in order to avoid conflict over water rights and land. Community participation and ownership is key.
Furthermore, throughout 2024, UNOPS conducted consultation with communities, DfA officials and NGOs regarding the ground water recharge. The stakeholders emphasized on the importance of this component and suggested that the sites should be selected very carefully to avoid social conflict. All the stakeholders suggested that the project should prioritize drought affected areas for ground water recharge projects.
Further consultations will be held throughout project implementation, specifically once sub-project locations have been identified. The UNOPS technical feasibility study that is currently underway and will feed into the selection of locations and preparation of technical designs for Component 2, will also be accompanied by stakeholder consultations prior to the commencement of works. The Project team has taken note of the valuable inputs collected so far.

**Lessons Learned from the World Bank-funded Community Livelihoods and Resilience Project (CRL):** UNOPS commenced with the implementation of the CRL in Afghanistan in 2022. Albeit the Project still being relatively new, UNOPS registered some lessons learnt and integrated them into the E&S instruments for the WERP. One lesson is to ensure that sufficient budget is calculated for the implementing partners to implement the E&S mitigation measures in their Project activities. UNOPS will therefore ensure that PSEC and other partner budgets will reflect E&S mitigation measures in as much detail as possible at the time of the budget preparation. Lessons also emphasized that key personnel of implementing partners needs to be thoroughly evaluated during the procurement process to ensure that E&S capacity is available. Furthermore, the requirement for E&S capacity building among implementing partners should not be underestimated and needs to be budgeted for. UNOPS further found that UXO management and procedures should be listed as additional security risk mitigation measures in the ESMF. UNOPS receives UXO discovery reports from its sub-project site. UNOPS will account for UXO-related risks in its security risk management measures for the WERP. Lastly, the team noted that the

Environmental and Social Screening/Assessment form should be simple and understandable for the non-technical person.

# 4. Policy and Legal Framework

**National Legal Framework**: The Islamic Republic of Afghanistan has the following laws and policies in place, which are relevant for the Project:

The Environmental Law (2007): The Law is based on international standards that recognize the current state of Afghanistan's environment, while developing a framework for effective environmental management. It lays out sustainable use, rehabilitation and conservation of biological diversity, forests, land, and other natural resources; the prevention and control of pollution; conservation and rehabilitation of the environment; and the active involvement of local communities in decision-making processes on the environment, including a clearly stated opportunity for affected persons to participate in each phase of a project.

The laws require any development project, plan, policy, or activity to apply for an environmental permit (Certificate of Compliance) prior to implementation. For that, an Environmental Impact Assessment (EIA) needs to be submitted to the National Environmental Protection Agency (NEPA) to determine the associated potential adverse effects and possible impacts. However, it is expected that the size of sub-projects is too small and do not fall under these requirements. The law also establishes a Board of Experts that reviews, assesses, and considers the applications and documents before NEPA could issue or not issue the permit. The EIA Board is appointed by the General Director of the NEPA and is composed of not more than 8 members. The EIA Board of Expert's decision can be appealed.

The EIA Policy (2017): This policy defines the administration of EIA procedures and provides the policy basis for the implementation of Chapter 3 of the Environmental Law (2007). It provides a list of projects that may have adverse impacts (Category 1) and those that may create significant negative impacts (Category 2).

The Water Law (2009) enshrines the conservation, equitable distribution, and the efficient and sustainable use of water resources to strengthen the national economy and secure the rights of the water users. The law states that the priority for use of water resources is drinking water and livelihoods. The provision of drinking water supplies in the villages and the construction of small water infrastructure is the responsibility of MRRD, in cooperation with other relevant ministries. The rights of way for water resources and water infrastructure are protected from encroachment.

Labor Law (2007): The law consists of numerous articles relevant to construction. Article 30 states that an organization can increase or decrease the hours of work during the week provided that the total working hours during a week do not exceed 40 hours. Articles 107–119 in Chapter 10 of the Law set out a range of specific requirements to ensure health and occupational safety conditions in a workplace. For example, Article 112 requires that when working in 'conditions harmful to health', special clothing/footwear should be put at the disposal of employees free of cost. Article 114 requires that First Aid Medical kits should be available, and the treatment of an employee's illness should be at the employer's expense.

International Environmental Agreements: The Constitution binds the state to abide by the United Nations (UN) charter, international treaties, international conventions that Afghanistan has signed, and the Universal Declaration of Human Rights (Article 7).

**Applicability of National Legislation**: Most of the applicable laws and policies in Afghanistan still reflect old Afghan laws, as well as many new laws and policies, which were prepared and passed in the last 20 years, based on international assistance. This ESMF was prepared according to the laws and regulations as of July 2023. The project will follow all the laws and policies, where they do not contradict the World Bank's ESF. Where contradictions exist or where the Afghan legislation contradicts the World Bank standards, the ESF will be applied.

However, adherence to some laws will be difficult due to the lack or malfunctioning of existence of government agencies e.g., central and provincial NEPA offices, and due to the fact that the project cannot interact with the ITA, due to the Security Council's Al Qaida/ Taliban sanctions regime under the UN Charta's Chapter 7. This means that the project will follow laws of the country as far as possible.

**International Conventions and Agreements**: Afghanistan has signed and ratified the following relevant international conventions and agreements. While the current government is not recognized and is under sanctions, it is still held accountable for the continuation of international conventions and agreements. However, the capacities for implementation are extremely limited:

Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), 1983.
Conventions on the Rights of the Child (CRC), 1989.
Worst Forms of Child Labor Convention, 1999.
Equal Remuneration Convention, 1951.
Abolition of Forced Labor Convention, 1963.
Minimum Age Convention, 2010.
Convention on Biological Diversity, 1993.
Convention on Climate Change, 1992 (and Kyoto Protocol in 1997, and Paris Agreement in 2015)
Convention to Combat Desertification, 1994.
Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973.
Vienna Convention for the Protection of the Ozone Layer, 1988.
UN Charter – Article 41, Chapter 7, which is the basis for sanctions against Al Qaeda / Taliban
Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal (1992).

**World Bank ESS**: The World Bank's 10 Environmental and Social Standards (ESS) establish the standards that the project will meet through the project life cycle, as follows. The following ESSs are relevant to the WERP.

ESS 1: Assessment and Management of Environmental and Social Risks and Impacts. ESS1 sets out the borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated at each stage through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the ESS.

The environmental and social assessment will be based on current information, including a description and delineation of the project and any associated aspects, and environmental and social baseline data at

an appropriate level of detail sufficient to inform characterization and identification of risks and impacts and mitigation measures. The assessment will evaluate the project's potential E&S risks and impacts, with particular attention to those that may disproportionately affect disadvantaged and/or vulnerable social groups; examine project alternatives; identify ways of improving project selection, siting, planning, design and implementation in order to apply the mitigation hierarchy for adverse environmental and social impacts and seek opportunities to enhance the positive impacts of the project. The environmental and social assessment will include stakeholder engagement as an integral part of the assessment, in accordance with ESS10.

ESS 2 – Labor and Working Conditions. ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Recipients can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. Labor management procedures (LMP) (see annex 4) have been developed applicable to the project.

ESS 3 – Recourse and Efficiency, Pollution Prevention and Management. ESS3 recognizes that economic activity including irrigation and agriculture applying sometimes excessive fertilizer, pesticides, and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. This ESMF includes generic risk mitigation measures on resource efficiency and pollution prevention and management, as well as a Pest Management Plan (see Annex 7).

ESS 4 – Community Health and Safety. ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. ESS 4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable. While not explicitly mentioned, prevention and mitigation of different forms of gender-based violence (GBV), specifically Sexual Exploitation and Abuse (SEA), is being covered by ESS4. Community health and safety aspects are included in this ESMF, and a separate SEA/SH Action Plan has been prepared to assess and manage the risks of SEA/SH.

ESS 5 – Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement. ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The project will use land that is voluntarily donated. This ESMF includes VLD Guidelines (see-annex 6).

ESS 8 – Cultural Heritage. ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS8 sets out measures designed to protect cultural heritage throughout

the project life cycle. This ESMF includes Chance Find procedures for the case of unexpected cultural heritage discoveries.

ESS 10 – Stakeholder Engagement and Information Disclosure. This ESS recognizes the importance of open and transparent engagement between the Recipient and project stakeholders as an essential element of good international practice. The Recipient will engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. The nature, scope and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts. A separate Stakeholder Engagement Plan (SEP) has been prepared that will be applicable to all components of the project.

The WERP will further apply the WB General EHS Guidelines from 2007. These guidelines contain the performance levels and measures that are acceptable to the WB. When the national regulation differs from the levels and measures presented in these guidelines, the project will be required to achieve whichever is more stringent.

The following Good Practice Notes will also be consulted to ensure that mitigation measures developed are aligned with best industry practices: Addressing sexual exploitation and abuse and sexual harassment (SEA/SH) in investment; projects financing involving in major civil works, 2020; Addressing Gender based violence in Investment Project Financing involving major civil works, 2018; Road safety, 2019; Managing the risks of adverse impacts on communities from temporary project induced labor influx, 2016. Further references have been made to the World Bank's Technical Note on "Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints of conducting public meetings" (2020). Also, the WBG EHS Guidelines are applicable and here is the link:

https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

# 5. Environmental and Social Baseline

**Climate**: Afghanistan is a land-locked country in the center of Asia, covering an area of about 652,000 square kilometers. It is mostly semi-arid. The country's climate is continental, with temperatures ranging between 30°C in summer in the lowlands to minus 20-40°C in winter in the highlands. The average annual rainfall of about 250 millimeters conceals stark variations between different parts of the country, from 1,200 millimeters in the higher altitudes of the northeast to only 60 millimeters in the southwest. Due to its mountainous relief and the convergence of several climate systems, Afghanistan boasts an impressive diversity of ecosystems, land cover and water sources.

**Climate Change**: The World Bank predicts that Afghanistan will see a warming higher than the global average due to global warming.[2] Since 1950, a rise of 1.8°C has been recorded.

[2] Jelena Bjelica, Shrinking, Thinning, Retreating: Afghan Glaciers under Threat, January 2021, accessed at: https://www.afghanistan-analysts.org/en/reports/economy-development-environment/shrinking-thinning-retreating-afghan-glaciers-under-threat-from-climate-change/

The majority of the country's population lives in rural areas. That portion of the population relies heavily on productive natural resources, which makes it extremely vulnerable to the impacts of local and global phenomena (such as droughts, natural disasters, climate change and desertification) and the degradation of natural resources through erosion and pollution of soil and water.

**Topography**: Afghanistan is a landlocked country, with the Hindu Kush mountains running northeast to southwest, dividing the northern provinces from the rest of the country. The Hindu Kush mountain range reaches a height of 7,492 meters at Noshaq.

**Surface water and groundwaters**: There are four major rivers crossing the country: Amu Darya, Hari River, Kabul River, and Helmand River, as well as smaller rivers, lakes and streams. Rainfall in Afghanistan is scarce, and mainly affects the northern highlands in March and April. In the lowlands rain can be rare and unpredictable. However, Afghanistan usually does not face water shortages, due to the melting snow that flows into the rivers, streams and lakes.

**Natural Disasters**: Since the country is located in a zone of high-seismic activity, earthquakes are common. Damaging earthquakes occur in the Hindu Kush mountains. Flooding and mudslides are real dangers in the mountains and valleys, particularly in spring and summer when snow starts melting or glacier lakes suddenly burst causing destructive flash floods. Prolonged drought and dust storms can also wreak extensive damage, with nationwide impacts. Extreme winter conditions bring high losses in agriculture and infrastructure. These factors add to the burden of environmental degradation and place stress on ecosystems.

**Ecology**: Afghanistan has four ecoregions:

- Closed Forest Vegetation
- Open Woodland Vegetation
- Semi-Desert Vegetation
- Subalpine and Alpine Vegetation

A recent study breaks these down into 15 smaller regions, of which 4 are considered critical/endangered, 8 as vulnerable, and only 2 as stable.[3] The species composition of all areas has been significantly reduced due to overgrazing, fuel collection and exploitation by large herbivorous animals.

There are 3,500-4,000 vascular plant species that are native to the country. The flora varies depending on the altitude. Up on the Safed Koh alpine range, for example, at 1,800 – 3,000 meters, large forest trees – including conifers – exist. Down to 1,000 meters altitude, wild olives, species of rockrose, wild privet, acacias and mimosas exist. In the low brushwood of the Kandahar tableland plains, one can find leguminous thorny plants, including camelthorn, astragalus, spiny rest-harrow, sensitive mimosa, and orchids. In the last decades, 90 percent have been destroyed due to timber exploration.[4]

Afghanistan is home to a variety of animals. There are about 135 – 150 species of mammals, 428 – 515 species of birds, 92 – 112 species of reptiles, 6-8 amphibians, 101 – 139 species of fish and 245 species of

[3] UNEP, NEPA and GEF, Biodiversity Profile of Afghanistan, June 2008, accessed at: https://postconflict.unep.ch/publications/afg_tech/theme_02/afg_biodiv.pdf

[4] Wikipedia, Geography of Afghanistan, accessed at: https://en.wikipedia.org/wiki/Geography_of_Afghanistan

butterflies. A total of 39 species occur on the World Conservation Union (IUCN) Red List, as globally threatened with extinction.[5]

**Sensitive habitats**: Afghanistan has currently not legally instituted or effectively managed protected areas. UNEP provided a list with 15 proposed protected areas, which have been proposed by different entities.[6]

Population: In 2020, 47.3 percent of the population of Afghanistan lived below the national poverty line. 34.3 percent of the employed population earned below US$ 1.90 per day. The total unemployment rate in 2020 was 11.7 percent.[7]

Following the US withdrawal from Afghanistan, following decades of conflicts and recurrent natural disasters, UN OCHA estimates that 24.4 million Afghans are in need of life-saving humanitarian assistance. In 2021, 17.7 million people were in need, and the increase is largely driven by the sharp increase in the number of people in acute food insecurity, the broad-based collapse of economic conditions and basic services. At the same time a crisis in rural livelihoods has been triggered by drought, while urban livelihoods have diminished due to the economic shock.[8]

Some households and individuals are particularly vulnerable, including those with extreme household debt burdens, mental and physical disability, the use of negative coping strategies, and those households that are headed by women, children, or the elderly.[9]

**Gender equality and GBV:** The context around gender norms remains at the center of the political, peace and security landscape in Afghanistan, putting women and girls at the frontlines of this crisis.[10] Violence against women and girls (VAWG) is rooted in gender inequality, discrimination, and harmful cultural and social norms. VAWG and gender-based violence (GBV) is widespread with reports indicating 56 percent[11] of women, for example, have experienced intimate partner violence. Women and girls in Afghanistan continue to face persistent discrimination, violence, street harassment, forced and child marriage, severe restrictions on working and studying outside the home, and limited access to justice. In the context of COVID-19, the risks of GBV have only increased – in Afghanistan as well as other parts of the world. [12]

Women are also at a particular disadvantage in accessing economic opportunities and political platforms. While the right of women to work is enshrined in the 2004 constitution, many women have reported job loss since 15 August 2021, due to new restrictions on women's mobility and conditions on participation

[5] UNEP, NEPA and GEF, Biodiversity Profile of Afghanistan, June 2008, p. 9

[6] UNEP, NEPA and GEF, Biodiversity Profile of Afghanistan, June 2008, p. 9

[7] The Asian Development, Afghanistan and ADB, Poverty Data: Afghanistan, accessed at: https://www.adb.org/countries/afghanistan/poverty

[8] UN OCHA, Humanitarian Response Plan Afghanistan, January 2022, p. 7, accessed at: https://reliefweb.int/sites/reliefweb.int/files/resources/afghanistan-humanitarian-response-plan-2022.pdf

[9] UN OCHA, Humanitarian Response Plan Afghanistan, January 2022, p. 7-8, accessed at: https://reliefweb.int/sites/reliefweb.int/files/resources/afghanistan-humanitarian-response-plan-2022.pdf

[10] Women Rights in Afghanistan, where are we now? Gender Alert UNWOMEN

[11] Central Statistics Organization/Afghanistan, Ministry of Public Health/Afghanistan, and ICF (2017). Afghanistan Demographic and Health Survey 2015.

[12] Afghanistan demographic survey 2015

in the public sphere.[13] Job loss has been observed across most sectors, however, women in particular professions – such as media and civil society – are reporting additional challenges due to the ITA position on women's right to work. It is important to note that some of the barriers to women's participation in employment are created by lack of clarity and self-censoring by families and women in the absence of any clear directive from the ITA allowing women's full participation in the workforce. Overall, there has been an observable reversal in a women's right to work as a result of the ITA ascension to power with no clear plan or pathway in place for women to fully return to their jobs.[14] Afghanistan ranks 154 out of 162 countries on the UNDP Gender Inequality Index.

# 6. Identification and Assessment of Potential Environmental and Social Risks and Impacts and Mitigation Measures

## 6.1. Assessment of Risks and Impacts

The Project will have beneficial social impacts in improving people's access to basic human needs (drinking water and hygiene services) across severely drought-affected provinces. The Project is also likely to have positive impacts in terms of enhanced capacities of relevant parties, and better opportunities for community participation and social inclusion.

**The Environmental risks** and impacts related to the Project activities are considered *substantial*. However, they can be reduced by implementing relevant mitigation measures. These environmental risks include construction related impacts, such as generation of dust, noise, debris, waste and vibrations at sub-project sites; potential surface water pollution from pesticide use in irrigation canals; accidental leakages of oil or fuel; eutrophication from nutrient loading from irrigated areas; soil erosion sedimentation associated with improper site restoration after completion of civil works; and water waste and inefficient use of water due to defective or leaking pipelines; occupational health and safety (OHS) issues for workers and health & safety issues for communities including exposure to hazardous chemicals, risk of falls into trenches and wells, and poor working conditions; and disposal of electronic waste associated with solar panel installations.

The social risk and impacts related to the Project are considered *substantial*. The risks include the exclusion of vulnerable groups from accessing safe water and sanitation facilities; management of local expectations around deployment in the Project; and resistance from the Interim Taliban Administration (ITA) against the approach to engage women in the participatory planning, design, and implementation process. Other potential social risks are related to the risk of SEA/SH, risk of non-compliance with labor and working conditions requirements, including supply chain-related project risks and the allegations of forced labor risks associated with the polysilicon suppliers, as component 2 will involve the installation of solar water pump systems. The installation of the solar panels will also lead to modest labor influx, as they cannot be fully supplied locally, and threats to human security through the escalation of personal,

[13] Reuters, Afghan women should not work alongside men, senior Taliban figure says, 13 September 2021, accessed at https://www.reuters.com/world/asia-pacific/exclusive-afghan-women-should-not-work-alongside-men-senior-taliban-figure-says-2021-09-13/

[14] UN Women, Women's Rights in Afghanistan. Where are We Now?, December 2021, accessed at: https://www.unwomen.org/sites/default/files/2021-12/Gender-alert-Womens-rights-in-Afghanistan-en.pdf

communal conflict, crime, or violence is also an important contextual risk that may affect the safety of the workers, staff, and beneficiaries.

*Table 2 Risks and Impacts as per Activity*

| Activity | E&S Risk and Impact |
|---|---|
| **Component 1: Provision of Emergency Water Supply in Identified Rural Areas** | |
| Building new wells equipped with solar-powered pumps and handpumps, water tanks or reservoirs, pipes and distribution network, and household connections | (OHS) issues for workers and health & safety issues for communities including exposure to hazardous chemicals, risk of falls into trenches and wells, and poor working conditions<br>Unsafe working conditions<br>Non-compliance with labor and working conditions requirements<br>Accidental leakages of oil or fuel<br>Soil erosion sedimentation associated with improper site restoration after completion of civil works<br>Water waste and inefficient use of water due to defective or leaking pipelines<br>Improper site restoration of borrow pits: Material extraction and camp sites<br>Electronic waste pollution: improper solar disposal<br>Reduction of groundwater and depletion of surface-water flows<br>New wells: arsenic poisoning risk<br>Management of local expectations around deployment in the Project<br>Resistance from the Interim Taliban Administration (ITA) against the approach to engage women in the participatory planning, design, and implementation process<br>Risk of SEA/SH<br>Generation of dust, noise, debris, waste and vibrations<br>Exclusion of vulnerable groups from accessing safe water and sanitation facilities<br>Modest labor influx<br>Threats to human security<br>Chance Find (Archeological and Explosive materials) |
| Rehabilitation and replacement of priority small drinking water supply systems, including water wells, pipes, pumps, water tanks/reservoirs, solar and power generators<br><br>Implementation of quality survey and testing of each newly drilled well | (OHS) issues for workers and health & safety issues for communities including exposure to hazardous chemicals, risk of falls into trenches and wells, and poor working conditions<br>Non-compliance with labor and working conditions requirements<br>Unsafe working conditions<br>Generation of dust, noise, debris, waste and vibrations<br>Potential surface water pollution from pesticide use in irrigation canals<br>Accidental leakages of oil or fuel<br>Eutrophication from nutrient loading from irrigated areas<br>Soil erosion sedimentation associated with improper site restoration after completion of civil works |

| Activity | E&S Risk and Impact |
|---|---|
| | Water waste and inefficient use of water due to defective or leaking pipelines<br>Reduction of groundwater and depletion of surface-water flows<br>Electronic waste pollution: improper solar disposal<br>Disposal of electronic waste associated with solar panel installations<br>Riverbed destabilization: sand & gravel extraction<br>Management of local expectations around deployment in the Project<br>Resistance from the Interim Taliban Administration (ITA) against the approach to engage women in the participatory planning, design, and implementation process<br>Exclusion of vulnerable groups from accessing safe water and sanitation facilities<br>Risk of SEA/SH<br>Modest labor influx<br>Threats to human security<br>Lead and battery acid emissions<br>Health risks: leaking hazardous batteries<br>Chance Find (Archeological and Explosive materials) |
| Implementation of public awareness campaign on good WASH practices | Resistance from the Interim Taliban Administration (ITA) against the approach to engage women in the participatory planning, design, and implementation process<br>Risk of SEA/SH<br>Exclusion of vulnerable groups from accessing safe water and sanitation facilities |
| Selecting of target areas | Exclusion of vulnerable groups from accessing safe water and sanitation facilities<br>Threats to human security |
| Provision of water supply and sanitation services to critical public institutions and places | Threats to human security<br>Resistance from the Interim Taliban Administration (ITA) against the approach to engage women in the participatory planning, design, and implementation process<br>Water waste and inefficient use of water due to defective or leaking pipelines<br>Reduction of groundwater and depletion of surface-water flows |
| **Component 2: Improved Surface Water Irrigation Using Solar Technologies in Selected Rural Areas** | |
| Installation of off-grid photovoltaic solar panels, irrigation pumps, and any associated equipment – for the supply of surface water for irrigation<br><br>Check dams | (OHS) issues for workers and health & safety issues for communities including exposure to hazardous chemicals<br>Unsafe working conditions<br>Forced labor in polysilicon supply<br>Lead and battery acid emissions<br>Non-compliance with labor and working conditions requirements<br>Accidental leakages of oil or fuel<br>Health risks: leaking hazardous batteries<br>Reduction of groundwater and depletion of surface-water flows<br>Soil erosion sedimentation associated with improper site restoration after completion of civil works |

| Activity | E&S Risk and Impact |
|---|---|
| | Risk of soil erosion and sedimentation through check dams<br>Improper site restoration of borrow pits: Material extraction and camp sites<br>Electronic waste pollution: improper solar panel disposal<br>Reduction of groundwater and depletion of surface-water flows<br>Risk of check dam failure<br>Management of local expectations around deployment in the Project<br>Risk of SEA/SH<br>Generation of dust, noise, debris, waste and vibrations<br>Exclusion of vulnerable groups from accessing surface water irrigation<br>Modest labor influx<br>Threats to human security<br>Involuntary land acquisition for construction of check dams<br>Chance Find (Archeological and Explosive materials) |
| O&M until end of project | Lack of O&M |
| Screening and selection of PESCs | PESC ties to ITA |
| Planning, geographical selection and community engagement | Exclusion of vulnerable groups<br>Resistance from the Interim Taliban Administration (ITA) against the approach to engage women in the participatory planning, design, and implementation process |
| **Component 3: Technical Training and Public Awareness Campaigns** | |
| Consultancy services to develop and deliver technical training modules | Downstream E&S risks from TA |
| Awareness campaigns on efficient water use | Exclusion of vulnerable groups from awareness raising |

## 6.2 Site-specific Risk Management Process

**Environmental and Social Screening Process**: At the activity level, E&S screening is the first step to understand the potential risks and impacts of the activity. The template for E&S screening to be applied is listed in Annex 1. The E&S Screening template will be reviewed and updated as needed during the project implementation.

The screening results will allow filtering out of the activities that are not eligible (see Annex 2) and classify eligible activities on the basis of predictable risks and impacts. All activities that are not sustainable due to their location or because they represent risks and impacts that are neither avoidable, mitigable nor compensable will not be financed by the project.

The E&S screening form further guides to the relevant plan that lists mitigation measures for the activity (e.g., the Project site-specific ESMP, the GBV/SEA/SH Action Plan, Chance Find Procedures, Labor Management Procedures (LMP), etc..). It will also help determine the need for the implementation of further E&S mitigation measures, for example in the form of simplified ESMPs. The simplified ESMP can

be developed based on the Project ESMP and other E&S instruments. The E&S screening results and simplified ESMPs will be submitted to the World Bank for clearance.

The E&S screening process will be conducted by the E&S Specialists of the PIEs and PESCs. The AKF and UNOPS PIU E&S Specialists and the UNOPS Community Mobilizers will assist in understanding the procedures, developing required forms and training the PIEs and PESCs, will oversee and monitor the E&S screening process and will provide a no-objection to the screening result where applicable.

In general, the project teams will anticipate and avoid risks and impacts where possible. Where this is not possible, it will aim to minimize or reduce the risks and impacts to acceptable levels. Where significant residual impacts remain, they will be compensated or offset where feasible. If this is not possible, the activity will not be implemented.

**Project Generic ESMP**: The table matrix in Annex 1 contains a detailed mitigation action plan in the form of a Project generic ESMP. It identifies prevention, minimization, mitigation and compensation measures for each type of activity. The mitigation table serves as a reference for potential risks and impacts, associated international industry best practices, mitigation measures and indicators or outcomes that can be planned and implemented throughout the project. The risks and impacts, mitigation measures and monitoring indicators are sorted by ESS.

**Site-Specific Mitigation Measures**: The generic ESMP shall be used as a basis to develop the site-specific E&S mitigation measures for specific activities or sets of activities, based on the results of the E&S risk screening. Proposed measures in the generic ESMP are general measures based on best industry practices, including the General WB EHS Guidelines. Each activity takes place in a specific context and has specific characteristics, which will be considered in the preparation of site-specific E&S mitigation measures, for example simplified site-specific ESMPs, which should be in place before the launching of any bidding process for any construction or installation activity takes place. Depending on the level of anticipated risks and impacts, other mitigation measures may be added, and monitoring mechanisms adjusted prior to sub-project commencement. See Annex 1 for a template to be completed alongside with the sub-project plans.

**Labor Management Procedures**: The project is associated with labor risks and impacts, given the different types of workers it will deploy for installation or construction works. These include OHS issues, child and forced labor, labor disputes, discrimination and exclusion of vulnerable/marginalized groups and GBV related issues. In order to mitigate these risks, specific labor management procedures (LMP) have been developed (see Annex 4). The purpose of the LMP is to establish clear labor procedures for all project workers, namely direct project workers (to be engaged by the Grant Recipients), contracted workers (to be engaged through implementing partners (IPs), and contractors), and primary suppliers' workers (for the provision of the solar water pump system), in line with the requirements of the local legislation and the World Bank's ESS 2.

**Chance Find Procedures**: Since Afghanistan has a rich cultural heritage, there are risks of impacting cultural goods during works in specific locations. To mitigate these risks on cultural heritage a Chance Find Procedure was developed (see Annex 3).

**GBV/SEA/SH Action Plan**: To mitigate any SEA/SH-related risks and impacts of project activities, a SEA/SH Prevention and Response Plan has been prepared. The plan contains a tailored channel to

handle SEA/SH grievances and proposes prevention mechanisms. It will be strictly followed by all project implementers. The Plan is available upon request.

**Stakeholder Engagement and Disclosure**: A separate Stakeholder Engagement Plan (SEP) was jointly prepared by AKF and UNOPS for the project. The SEP defines a structured, purposeful and culturally appropriate approach to consultation and disclosure of information, in accordance with ESS 10. AKF and UNOPS recognize the diverse and varied interests and expectations of project stakeholders and seek to develop an approach for reaching each of the stakeholders in the different capacities at which they interface with the project.

**Project Grievance Redress Mechanisms**: The SEP contains the description of the Project GRM. UNOPS has further prepared a detailed GRM Manual for the implementation of Component 2. The Project GRM by AKF and by UNOPS allow any project-affected person, workers and other stakeholders to file grievances with the project as well as other project-related concerns. Additionally, both AKF and UNOPS will provide a separate worker GRM that specifically addresses grievances related to all project workers, as outlined in the LMP. As per World Bank standards, the GRM operates to be responsive to SEA/SH cases with activities further detailed in the SEA/SH Action Plan. The GRMs aim to address concerns in a timely and transparent manner and effectively. It will be widely disseminated in all project areas, through means identified in the SEP. They will be readily accessible for all project-affected parties. They do not prevent access to judicial and administrative remedies. They are designed in a culturally appropriate way and are able to respond to all needs and concerns of project-affected parties.

**Security Risk Management**: The Project will implement security risk management measures, which include measures under the UN security protocols for direct workers of UNOPS, measures necessary for security risk management for AKF, PIEs and PESCs and workers as well as assets and sites. The PIUs will share updated security risk assessments capturing security risks at a reasonable and relevant level (provincial level, city level, district level, sub-project site level). PIEs and PESCs will prepare and implement local security measures, based on the security risk assessments, specifically for the planned interventions. UNOPS has described these measures in a Security Risk Assessment and Security Risk Management Plan (SMP). The PIUs will approve the measures and monitor their implementation. Furthermore, PIEs and PESCs will demonstrate the availability of relevant SOPs for their intervention to the PIUs. Where PIEs and PESCs have insufficient capacity to prepare local security measures, and have insufficient security-related SOPs, the PIU security experts will assist in the preparation and build the implementing partner's capacity in security risk management.

## 6.3. Proposed Mitigation Measures

**Generic Environmental and Social Management Plans:** The below Environmental and Social Management Plans include one plan for Component 1 and one plan for Component 2. The Plans are generic for Component-related sub-projects and may serve as a guide for implementers to prepare a site-specific ESMP table. Site-specific ESMPs should further include relevant measures from the Labor Management Procedures (LMP) and the SEA/SH Prevention and Response Plan (see separate document).

**Component 1: Generic ESMP**

*Table 3 Generic ESMP for Component 1*

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| Exclusion of Vulnerable Groups from Project Benefits | Implement and monitor Project GRM | X | X | | % GRM cases addressed | | | X | Implementation: PIEs<br><br>Monitoring: AKF-PIU |
| OHS risks: hazardous chemicals exposure<br><br>Unsafe working conditions<br><br>Lead and battery acid emissions<br><br>Health risks: leaking hazardous batteries | Implementation of engineering and administrative control measures to avoid or minimize the release of hazardous substances into the work environment keeping the level of exposure below internationally established or recognized limits<br>Keeping the number of employees exposed, or likely to become exposed, to a minimum<br><br>Communicating chemical hazards to workers through labeling and marking according to national and internationally recognized requirements and standards, including the International Chemical Safety Cards (ICSC), Materials Safety Data Sheets (MSDS), or equivalent (any means of written communication should | | X | | # of training sessions for workers on chemical hazards<br><br>Existence of an accidents/incident's logs<br><br>% of completion of a root/causes analysis following incidents<br><br># of workers trained in OHS issues<br><br>Record of Safety Risk Assessment Reports<br><br>Record of safety talks conducted – | X | X | | Implementation: contractors<br><br>Monitoring: PIEs, AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | be in an easily understood language and be readily available to exposed workers and first-aid personnel)<br><br>Training workers in the use of the available information (such as MSDSs), safe work practices, and appropriate use of PPE<br><br>The equipment used in the works should be routinely serviced to ensure proper and safe equipment functionality<br><br>Use of safety signage to warn contractor workers and visitors to worksites<br><br>Provision of adequate signage and communication of risk to workers and communities<br><br>Provision of first aid kits | | | | as part of the OHS Plan<br><br>First aid kits are available on site<br><br>Lost time incidents or near miss incidents recorded<br><br>Training provided on OHS | | | | |
| Managing local employment expectations | Adopt and implement GRM | | x | | # of grievances registered related to employment opportunities | | x | | Implementation: PIEs<br><br>Monitoring: AKF-PIU |
| Non-compliance with labor requirements | Ensure that contractor implements Workers' GRM | x | x | | # of grievances registered | | X | | Implementation: PIEs<br><br>Monitoring: AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Con-struction* | *Operat-ion* | | *Continuous* | *Mon-thly* | *Quar-terly* | |
| | Ensure adoption and implementation of Project GRM and Workers' GRM at every implementer<br><br>Provide training on LMP to workers | | | | through workers' GRM<br><br># or work-related grievances registered through Project GRM<br><br># of workers trained | | | | |
| Air & Dust pollution<br><br>Noise & Vibration<br><br>Waste Pollution | Suppress dust during construction by water spraying and dampening where necessary<br><br>Practice good general housekeeping at the work site; sweep off the drilled-out materials<br><br>Implement speed limit for the heavy machinery<br><br>Cover trucks carrying soil, sand and stone with tarpaulin sheets to dust spreading<br><br>Employ technologies that are least polluting and technically feasible | | X | | # of sites in which spraying of water is conducted<br><br># of trucks that are covered with tarpaulin<br><br># of contractors that implement speed limit<br><br># of sites that recycle waste<br><br># of designated areas for solid waste disposal identified | | X | | Implementation: Contractors<br><br>Monitoring: PIEs, AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | Recycling of waste effluents will be carried out as far as possible and practical<br><br>It will be ensured that the wastes are not released into any drinking water source, cultivation fields or critical habitat<br><br>Identify designated areas for solid waste disposal<br><br>Source raw materials for construction activities based on measures specified in Good International Industry Practices (GIIPs).<br><br>High level maintenance of the vehicles to reduce the vibrations<br><br>Ensure provision of waste bin on site | | | | # of construction vehicles that have undergone regular maintenance<br><br># of waste bins on site<br><br># of incidents/releases of waste | | | | |
| Water pollution: sedimentation, spills, fertilizers | Waste effluents will be not be released into irrigation channels – based on EHS Guidelines on Wastewater and Ambient Water Quality | | X | | # of incidents reported through the Project GRM<br><br># of sanitary facilities on construction sites | | X | | Implementation: Contractors<br><br>Monitoring: PIEs, AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | All wastewater discharges are to meet applicable country laws/regulations and WB Environmental, Health and Safety Guidelines (EHSGs) (General and sector-specific) | | | | | | | | |
| Soil erosion: unplanned material withdrawal | Avoid working on wet soil<br><br>Cover soils with vegetation or mulch | | X | | # of soil erosion incidents reported through the Project GRM | | X | | Implementation: Contractors<br>Monitoring: PIEs, AKF-PIU |
| Riverbed destabilization: sand & gravel extraction | Limit extraction of sand and gravel in one given place | | x | | # of damages reported through the Project GRM | | x | | Implementation: Contractors<br><br>Monitoring: PIEs, AKF-PIU |
| Improper site restoration of borrow pits: Material extraction and camp sites | Rehabilitation of borrow pits sites after extraction<br><br>Fence the area and post warning signs at entrance<br><br>Restore campsites after construction | | X | | % of borrow pit rehabilitated<br><br>Presence of fences<br><br>Number of incidents /injuries caused by open pits<br><br>% of campsites restored | | X | | Implementation: Contractors<br><br>Monitoring: PIEs, AKF-PIU |
| Electronic waste pollution: improper solar disposal | Develop project-specific hazardous materials management plan and procedure. | | x | x | # of community awareness sessions | | x | | Implementation: Contractors |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | Ensure safe installation<br><br>Promote consumer education about proper and safe practices for use of equipment<br><br>Proper isolation of equipment<br><br>Proper signalization of the solar power system<br><br>Awareness-raising on e-waste generation and management. | | | | # of subproject-specific plans developed | | | | Monitoring: PIEs, PESCs, AKF-PIU and UNOPS-PIU |
| New wells: arsenic poisoning risk | Implement water quality assessment | x | | | # of water quality assessments conducted | | x | | Implementation: PIEs<br><br>Monitoring: AKF-PIU |
| GBV/SEA/SH risks | Comply with the measures prescribed in the SEA Action Plan, including:<br><br>Sensitization/community awareness of project workers<br><br>Implementation of a GRM to handle these types of complaints<br><br>Each contractor to implement CoC for the workers with specific obligations with regards to SEA/SH | | X | | # of SEA/SH related complaints recorded<br><br>% of complaints handled in timely<br><br>% of workers that have signed CoCs.<br><br># of SEA/SH community awareness trainings | | X | | Implementation: Contractor, PIEs<br><br>Monitoring: AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | All project staff should be trained in SEA awareness programs | | | | | | | | |
| Human security threats: conflict, crime, violence | UNOPS to follow UN security protocols for direct workers<br><br>Provision of security risk assessments to AKF, PIEs, PESCs and contractors<br><br>AKF, PIEs, PESCs and contractors to provide local security protocols and demonstrate availability to relevant security SOPs | x | x | | % of implementers that provide local security plan<br><br>% of implementers that have relevant SOPs in place | | x | | Implementation: Contractor, PIEs<br><br>Monitoring: AKF-PIU |
| ITA resistance: women's engagement risk | Ensure selection of locations in which women's engagement is possible | x | x | | % of sites in which women are barred from engagement<br><br># of related grievances registered in the Project GRM | | x | | Implementation: Contractor, PIEs<br><br>Monitoring: AKF-PIU |
| Chance Find (Archeological and Explosive materials) | Implement Chance Find Procedures | | x | | # of related grievances registered in the Project GRM | | X | | Implementation: Contractor, PIEs<br><br>Monitoring: AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| Reduction of groundwater and depletion of surface-water flows | Place limits on the total wells and/or total pumping from a given aquifer.<br><br>Identify the safe yield for the area and based on that identify and establish a mechanism to determine the number of potential wells that are going to be opened in the relevant community and the field, their locations, depths, other characteristics and the amount of water to be used from a well for irrigation purposes.<br><br>In some sensitive/protected areas where protection of surface water (wetlands, rivers. etc) and groundwater in terms of quality and quantity is of utmost importance, assess the current status of surface and groundwater. If it cannot be assessed, it should not be disturbed.<br><br>Monitor nitrates in freshwater and groundwater to protect water against pollution caused | X | | X | # of irrigation sub-project in which the safe yield of aquifers has been established<br><br># of sites in which nitrates are monitored | | | X | Implementation: Contractor, PIEs<br><br>Monitoring: AKF-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Con-struction* | *Operat-ion* | | *Continuous* | *Mon-thly* | *Quar-terly* | |
| | by nitrates from agricultural sources. | | | | | | | | |

**Component 2: Generic ESMP**

*Table 4 Generic ESMP for Component 2*

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| Exclusion of Vulnerable Groups from Project Benefits | Implement and monitor Project GRM | X | X | | % GRM cases addressed | | | X | Implementation: PESCs<br><br>Monitoring: UNOPS-PIU and TPMA |
| OHS risks: hazardous chemicals exposure<br><br>Unsafe working conditions<br><br>Lead and battery acid emissions<br><br>Health risks: leaking hazardous batteries | Implementation of engineering and administrative control measures to avoid or minimize the release of hazardous substances into the work environment keeping the level of exposure below internationally established or recognized limits<br>Keeping the number of employees exposed, or likely to become exposed, to a minimum<br><br>Communicating chemical hazards to workers through labeling and marking according to national and internationally recognized requirements and standards, including the International Chemical Safety Cards (ICSC), Materials Safety Data Sheets (MSDS), or equivalent (any means of | | X | | # of training sessions for workers on chemical hazards<br><br>Existence of an accidents/incident's logs<br><br>% of completion of a root/causes analysis following incidents<br><br># of workers trained in OHS issues<br><br>Record of Safety Risk Assessment Reports<br><br>Record of safety talks conducted – as part of the OHS Plan<br><br>First aid kits are available on site | X | X | | Implementation: contractors<br><br>Monitoring: PSECs, UNOPS-PIU and TPMA |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | written communication should be in an easily understood language and be readily available to exposed workers and first-aid personnel)<br><br>Training workers in the use of the available information (such as MSDSs), safe work practices, and appropriate use of PPE<br><br>The equipment used in the works should be routinely serviced to ensure proper and safe equipment functionality<br><br>Use of safety signage to warn contractor workers and visitors to worksites<br><br>Provision of adequate signage and communication of risk to workers and communities<br><br>Provision of first aid kits | | | | Lost time incidents or near miss incidents recorded<br><br>Training provided on OHS | | | | |
| Forced labor in polysilicon supply | Comply with the LMP (see Annex 4) including:<br><br>Conduct a track record search of the suppliers at the bidding | X | X | | # of violations (forced labor) reported<br><br># of awareness campaigns | | X | | Implementation: PESCs<br><br>Monitoring: UNOPS-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | process (record of health and safety violations, fines, consult public documents related to workers' rights violations etc.)<br><br>Raise awareness of suppliers to not engage forced labor<br><br>Conduct spot-check at supplier facility | | | | | | | | |
| Managing local employment expectations | Adopt and implement GRM | | x | | # of grievances registered related to employment opportunities | | x | | Implementation: PESCs<br><br>Monitoring: UNOPS-PIU and TPMA |
| Non-compliance with labor requirements | Ensure that contractor implements Workers' GRM<br><br>Ensure adoption and implementation of Project GRM and Workers' GRM at every implementer<br><br>Provide training on LMP to workers | x | x | | # of grievances registered through workers' GRM<br><br># or work-related grievances registered through Project GRM<br><br># of workers trained | | X | | Implementation: PESCs, UNOPS-PIU<br><br>Monitoring: UNOPS-PIU and TPMA |
| Air & Dust pollution<br><br>Noise & Vibration<br><br>Waste Pollution | Suppress dust during construction by water spraying and dampening where necessary | | X | | # of sites in which spraying of water is conducted<br><br># of trucks that are covered with tarpaulin | | X | | Implementation: Contractors<br><br>Monitoring: PESCs, UNOPS-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | Practice good general housekeeping at the work site; sweep off the drilled-out materials<br><br>Implement speed limit for the heavy machinery<br><br>Cover trucks carrying soil, sand and stone with tarpaulin sheets to dust spreading<br><br>Employ technologies that are least polluting and technically feasible<br><br>Recycling of waste effluents will be carried out as far as possible and practical<br><br>It will be ensured that the wastes are not released into any drinking water source, cultivation fields or critical habitat<br><br>Identify designated areas for solid waste disposal<br><br>Source raw materials for construction activities based | | | | # of contractors that implement speed limit<br><br># of sites that recycle waste<br><br># of designated areas for solid waste disposal identified<br><br># of construction vehicles that have undergone regular maintenance<br><br># of waste bins on site<br><br># of incidents/releases of waste | | | | |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | on measures specified in Good International Industry Practices (GIIPs).<br><br>High level maintenance of the vehicles to reduce the vibrations<br><br>Ensure provision of waste bin on site | | | | | | | | |
| Water pollution: sedimentation, spills, fertilizers | Waste effluents will be not be released into irrigation channels – based on EHS Guidelines on Wastewater and Ambient Water Quality<br><br>All wastewater discharges are to meet applicable country laws/regulations and WB Environmental, Health and Safety Guidelines (EHSGs) (General and sector-specific) | | X | | # of incidents reported through the Project GRM<br><br># of sanitary facilities on construction sites | | X | | Implementation: Contractors<br><br>Monitoring: PESCs, UNOPS-PIU |
| Soil erosion: unplanned material withdrawal | Avoid working on wet soil<br><br>Cover soils with vegetation or mulch | | X | | # of soil erosion incidents reported through the Project GRM | | X | | Implementation: Contractors<br>Monitoring: PESCs, UNOPS-PIU |
| Riverbed destabilization: sand & gravel extraction | Limit extraction of sand and gravel in one given place | | x | | # of damages reported through the Project GRM | | x | | Implementation: Contractors |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | | | | | | | | | Monitoring: PESCs, UNOPS-PIU |
| Electronic waste pollution: improper solar panel disposal | Develop project-specific hazardous materials management plan and procedure.<br><br>Ensure safe installation<br><br>Promote consumer education about proper and safe practices for use of equipment<br><br>Proper isolation of equipment<br><br>Proper signalization of the solar power system<br><br>Awareness-raising on e-waste generation and management. | | x | x | # of community awareness sessions<br><br># of subproject-specific plans developed | | x | | Implementation: Contractors<br><br>Monitoring: PESCs, UNOPS-PIU |
| GBV/SEA/SH risks | Comply with the measures prescribed in the SEA Action Plan, including:<br><br>Sensitization/community awareness of project workers<br><br>Implementation of a GRM to handle these types of complaints | | X | | # of SEA/SH related complaints recorded<br><br>% of complaints handled in timely<br><br>% of workers that have signed CoCs.<br><br># of SEA/SH community awareness trainings | | X | | Implementation: Contractor, PESCs<br><br>Monitoring: UNOPS-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | Each contractor to implement CoC for the workers with specific obligations with regards to SEA/SH<br><br>All project staff should be trained in SEA awareness programs | | | | | | | | |
| Human security threats: conflict, crime, violence | UNOPS to follow UN security protocols for direct workers<br><br>Provision of security risk assessments to AKF, PIEs, PESCs and contractors<br><br>AKF, PIEs, PESCs and contractors to provide local security protocols and demonstrate availability to relevant security SOPs | x | x | | % of implementers that provide local security plan<br><br>% of implementers that have relevant SOPs in place | | x | | Implementation: Contractor, PESCs<br><br>Monitoring: UNOPS-PIU |
| Interim Taliban Administration resistance: women's engagement risk | Ensure selection of locations in which women's engagement is possible | x | x | | % of sites in which women are barred from engagement<br><br># of related grievances registered in the Project GRM | | x | | Implementation: Contractor, PESCs<br><br>Monitoring: UNOPS-PIU |
| Chance Find (Archeological and Explosive materials) | Implement Chance Find Procedures | | x | | # of related grievances registered in the Project GRM | | X | | Implementation: Contractor, PESCs |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | | | | | | | | | Monitoring: UNOPS-PIU |
| Risk of check dam failure | Conduct study on failure risk diagnosis | x | | | # of check dams for which diagnosis was prepared | | | x | Implementer: Contractor. PESC<br><br>Monitoring: UNOPS-PIU |
| Risk of soil erosion and sedimentation through check dams | Regularly inspect and maintain check dams | | | x | # of check dams that are regularly maintained | | | x | Implementer: CRG<br><br>Monitoring: UNOPS-PIU |
| Involuntary land acquisition for construction of check dams | Obtain voluntary land donation where possible<br><br>Sub-project with involuntary land acquisitions are ruled out | x | | | | | | X | Implementer: CRG<br><br>Monitoring: UNOPS-PIU |
| Reduction of groundwater and depletion of surface-water flows | Place limits on the total wells and/or total pumping from a given aquifer.<br><br>Identify the safe yield for the area and based on that identify and establish a mechanism to determine the number of potential wells that are going to be opened in the relevant community and the field, their locations, depths, other characteristics and the amount of water to be used from a well for irrigation purposes. | X | | X | # of irrigation sub-project in which the safe yield of aquifers has been established<br><br># of sites in which nitrates are monitored | | | X | Implementation: Contractor, PESCs<br><br>Monitoring: UNOPS-PIU |

| Potential Risks and Impacts | Proposed Mitigation Measures | Phase | | | Indicators for monitoring | Frequency of Monitoring | | | Responsibility for implementation and monitoring |
|---|---|---|---|---|---|---|---|---|---|
| | | *Planning* | *Construction* | *Operation* | | *Continuous* | *Monthly* | *Quarterly* | |
| | In some sensitive/protected areas where protection of surface water (wetlands, rivers. etc) and groundwater in terms of quality and quantity is of utmost importance, assess the current status of surface and groundwater. If it cannot be assessed, it should not be disturbed.<br><br>Monitor nitrates in freshwater and groundwater to protect water against pollution caused by nitrates from agricultural sources. | | | | | | | | |

# 7. Institutional Arrangements for E&S Risk Management and Monitoring and Evaluation

**Institutional Arrangements for E&S Risk Management:** The AKF-PIU includes qualified staff and resources to support management of ESHS risks and impacts of the Project. The PIU includes an Environmental Specialist, one dedicated Social Development Specialist, one Security Specialist, one GRM Officer, and a Gender and SEAH Specialist. Each of the contracted PIEs and contractors will assign E&S focal points right after contracting is concluded and make adequate resources available to conduct sub-project specific environmental and social risk screening, implement EHS/EHS risk management measures following the ESMF and the site-specific simplified ESMPs. The mentioned E&S staff are responsible for the overall (beginning to closure) project implementation period. All E&S staff have been onboarded.

The UNOPS-PIU includes one Environmental and one Social Development Specialist, one GRM Officer, one Security Specialist and one Gender and SEAH Specialist. All staff were appointed within three months of project initiation. The Environmental Specialist and Social Development Specialist are responsible for the monitoring and supervision of all implementers (PESCs and contractors) to ensure compliance with all E&S instruments. The two Specialists further receive regular reports on E&S issues from all implementers and will prepare quarterly E&S reports for the World Bank. The Social Specialist leads the implementation of the Project GRM, jointly with the GRM Officer. The Gender and SEAH Specialist guides the project implementation on all gender issues and ensures the implementation of the SEA/SH Action Plan.

Each of the contracted PESCs and subcontractors will assign E&S focal points upon initiation of the contractual agreement and make adequate resources available to EHS risk management measures following the ESMF provision and actions under the generic or simplified ESMPs.

**Monitoring and Evaluation**: The main objective of monitoring the implementation of E&S mitigation measures and outcomes is to ensure that this ESMF as well as other project E&S instruments are implemented and complied with by all project partners. This objective covers the whole project cycle.

Both, AKF-PIU and UNOPS-PIU will include a Monitoring and Evaluation (M&E) Specialist who will be responsible for the overall M&E of the relevant project components. The M&E Specialists are recruited into the PIUs and are based in the respective Offices in Kabul. He or she will prepare and maintain a M&E system for the project, including a digital information system (MIS). The M&E Specialists will use the MIS to systematically collect all necessary data and information to monitor progress and document compliance with all E&S instruments that have been prepared for the project. The M&E Specialists will work closely with the PIUs' E&S Specialists in obtaining the necessary data. Information and insights collected will help in taking corrective and preventive actions where necessary and adjust project modalities where applicable to ensure project activities comply with all standards. The data collection on E&S compliance will be embedded in the AKF's and UNOPS' M&E Plans for the project. The M&E Plans are prepared during project inception.

The ARTF Third-Party Monitoring Agent (TPMA) will help supervise activities and ensure that planned services are provided to the target beneficiaries and activities remain independent of government

control. The TPMA activities will include monitoring of field level E&S management, mitigation measures, and compliance with all E&S instruments by all implementers. The WB has set up its largest Third-Party Monitoring Program (TPMP) in Afghanistan, covering fiduciary controls and project oversight as well as close monitoring on the ground. The existing TPMP uses digital platforms to enhance transparency and accountability.

Lastly, CRGswill help with community monitoring, local accountability mechanisms and grievance redress. CRGshave appointed monitoring and grievance focal persons who provide regular reports to NGOs about progress and citizens' feedback.

The M&E system will be based on a rigorous monitoring and reporting schedule, which includes reporting by all implementers.

**Monitoring Strategies and Evaluation Indicators:** Monitoring activities will be carried out by the PIU E&S staff. The staff will monitor all above-mentioned E&S-related indicators (See generic ESMP table), as they are applicable for the respective PIEs, PESCs or contractors implementing the sub-project. Depending on the sub-project specific risks and impacts, additional mitigation measures and indicators may be defined. Monitoring will largely consist of document review as well as supervision or spot checks in the project locations.

## 8. Estimated Budget for ESMF

The implementation of this ESMF will incur the following estimated costs for AKF and UNOPS. The security risk management costs are calculated separately.

*Table 5 Budget ESMP Implementation*

| E&S Activity | Total Cost (USD) |
|---|---|
| **Hiring of environmental and social experts** | |
| Dedicated E&S staff at UNOPS<br>- One Environmental Specialist<br>- One Social Development Specialist<br>- One GRM Officer<br>- Specialist consultants (GBV, security etc…) | staff costs |
| Dedicated staff at AKF<br>- One Environment Management Specialist<br>- One Social Development Specialist<br>- One Security Specialist<br>- One GRM Officer<br>- One Gender and SEAH Coordinator | 220,000 |
| **Training and capacity development** | |
| Implementation of capacity and development initiatives for all implementers (40 trainings per year, 5000 per training) | 200,000 |

| E&S Activity | Total Cost (USD) |
|---|---|
| Training to beneficiaries and affected communities and workers (see below) | 320,000 |
| **Awareness campaign** | |
| Implementation of SEA/SH Action Plan | 278,000 |
| **Consultation and disclosure** | |
| Consultation and public outreach sessions in all the districts/communities/relocation sites | 80,000 |
| Disclosure campaign | 80,000 |
| **Grievance redress mechanism** | |
| GRM costs per month 4,000 | 150,000 |
| **Monitoring and documentation of ESMF implementation** | |
| Verification of implementation of mitigation measures, site visits, audits, reviews, reporting (80 site visits per year by 2 staff = 320 site visits) | 300,000 |
| **TOTAL** | **1,628,000** |

## 9. Training and Capacity Building

The Training and Capacity Building Plan describes the training needs and planned training activities in order to ensure that all implementers as well as members of the beneficiary communities are prepared for the implementation of the ESMF and other E&S instruments. Training will be held to build the capacity of AKF staff, UNOPS staff, PIEs, PESCs, NGOs, CSOs and contractors.

**Capacity Building Needs**: The specific training and capacity building needs for AKF, UNOPS, PIEs, PESCs and contractors includes: a) training in the ESF and Project E&S instruments; b) stakeholder engagement; c) E&S Screening; d) SEA/SH prevention and risk mitigation; e) Implementation, monitoring and reporting of ESMPs; f) GRM; g) Incident and accident reporting, h) Implementation of LMP, its provisions, and labor complaints; i) Monitoring and reporting on E&S due diligence; j) security risk management, k) stakeholder engagement; I) Pest Management Plan (PMP); and m) OHS. Training will be provided either by the E&S Specialists in the PIUs, or by external consultants recruited for this purpose.

The specific training and capacity building needs for selected beneficiaries, local community members and project-affected parties will include: a) Community Health & Safety issues; c) SEA/SH awareness, prevention, risk mitigation and response; e) GRM. These trainings will be provided to the communities by the PIEs, PESCs and contractors. Additional training will be provided to project workers. The training topics will include: a) Occupational Health & Safety; b) SEA/SH awareness; c) Code of Conducts (CoCs); d) Labor Management Procedures including Workers' GRM. The training to workers will be delivered by the respective contractors directly. Where contractors lack the capacity in a particular topic, the AKF-PIU or UNOPS-PIU or implementing entity will take on the training of workers. At the inception phase of a sub-project, the PIUs will be training PIEs and PSECs, so the latter can then train respective contractors and their workers where required.

**Training and Capacity Building Plan**: Based on the ESCPs and the identified requirements in regard to the project activities, the detailed time schedule for training and capacity building will be developed when the PIEs and Contractor staff and workers onboarded. The following training and capacity building sessions will be undertaken.

*Table 6 Training and Capacity Building Plan*

| Topic of Training | Target Group | Timeframe | Responsible for provision of training | Estimated costs |
|---|---|---|---|---|
| Training for AKF, UNOPS, PIEs, PESCs and contractors | | | | |
| Training in ESF and project E&S Instruments | AKF, UNOPS | Prior to commencement of activities | World Bank | 20 trainings per year: (40 x 5,000) = 200,000 |
| Stakeholder Engagement | | | | |
| E&S Screening | PIEs, PESCs and contractors | | UNOPS-PIU and AKF-PIU | |
| OHS | | | UNOPS PIU | |
| Emergency Preparedness and Response | | | | |
| SEA/SH prevention and mitigation | | | | |
| Implementation, monitoring and reporting of ESMPs | | | | |
| LMP | | | | |
| GRM | | | | |
| Incident and Accident Reporting | | | | |
| Implementation and monitoring of ESMPs in general | | | | |
| Security risk management | | | | |
| Stakeholder engagement | | | | |
| **Trainings for specific target communities groups** | | | | |
| Community Health & Safety | Community members (e.g. CRGmembers, elders, teachers, students, clinic doctors and nurses, mullahs and imams, etc…) | Prior to commencement of activities | PIEs/PESCs | 40 trainings per year: (80 x 2,000) = 160,000 |
| Emergency Preparedness and Response | | | | |
| SEA/SH awareness, prevention, risk mitigation and response | | | | |
| GRM | | | | |
| **Trainings for workers** | | | | |
| Occupational Health & Safety | All project workers | Immediately upon signing civil works contracts | PIEs/PESCs and/or contractors…. | 40 trainings per year (80 x 2,000) = 160,000 |
| GBV/SEA/SH awareness | | | | |
| COCs | | | | |
| Labor Management Procedures including Workers' GRM | | | | |
| incident and accident reporting | | | | |

# Annex 1: Environmental and Social Screening Form, Generic ESMP and Template for Site specific ESMP

## Component 1: Environmental and Social Screening Form

**Environmental and Social Screening Form**

*Table 7 E&S Screening Form for Component 1*

| | |
|---|---|
| Sub-project ID/title | Village / area |
| Type of Project | District / municipality |
| Involved CRGname (if applicable) | Province |
| Start date of sub-project | End date of sub-project |

| Nature of sub-project | | Category of sub-project | | | | Mitigation Measures | Costs |
|---|---|---|---|---|---|---|---|
| **Number** | **Environmental and Social Consequences** | **N&P Impact and N/A** | **Low Impact** | **Medium Impact** | **High Impact** | | |
| 1 | Is the activity a cause for dust pollution? | | | | | | |
| 2 | Is the activity a cause for noise pollution? | | | | | | |
| 3 | Is the activity a cause for earth removal from borrow areas? | | | | | | |
| 4 | Will the activity create solid or liquid wastes that cause potential contamination of surface water and groundwater supplies? | | | | | | |
| 5 | Is the activity cause for substantial changes to water quality and quantity? | | | | | | |
| 6 | Does the activity cause the alteration of water flow? | | | | | | |
| 7 | Are there environmentally sensitive areas (protect area, forests, national parks or wetlands)? | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | Does the activity threaten endangered and threatened species? | | | | | | |
| 9 | Is the selected site exposed to natural disasters? | | | | | | |
| 1o | Is the water source exposed to any contamination or pollution risk? | | | | | | |
| 11 | Is there a risk of vulnerable people being excluded from project benefits? | | | | | | |
| 12 | Are there any Occupational Health and Safety (OHS) risks and hazards to workers and the community, both during construction and afterward? | | | | | | |
| 13 | Is there a risk of forced and child labor? | | | | | | |
| 14 | Is there a risk of GBV/SEA/SH for female project workers or beneficiaries? | | | | | | |
| 15 | Is there a security risk for project workers and assets in the area? | | | | | | |
| 16 | Is there enough water available all year around for running the hydropower system? | | | | | | |
| 17 | Is the subproject diverting water from the stream that could decrease the water share of the downstream communities? | | | | | | |
| 18 | Will the activity create conflict among the people? | | | | | | |
| 19 | Does the activity require the use of any land (Public or | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | private, temporarily or permanently)? | | | | | | |
| 20 | Is the required land public or privately owned? | | | | | | |
| 21 | Are there any occupants / customary/traditional users? | | | | | | |
| 22 | Is the intervention likely to cause loss of livelihood or damage to agricultural lands, standing crops, trees or loss of housing, other assets, or resource use? | | | | | | |
| 23 | Have landowners/users indicated interest in voluntary land donations? | | | | | | |
| 24 | Are the landowners / users / occupants that consider a VLD direct beneficiaries of the activity? | | | | | | |
| 25 | Are there any Important cultural or archeological sites nearby? | | | | | | |
| 26 | Will anyone be prevented from using economic resources (e.g. pasture, fishing locations, forests) to which they have had regular access? | | | | | | |
| 27 | Might the project adversely affect communities or vulnerable people living in the area? | | | | | | |
| | | | | | | | |
| 29 | Is there a risk of groundwater depletion or reduced flow of surface water due to irrigation activities? | | | | | | |
| | | | | | | | |
| | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |

**Note:**
**(1) N and P impacts and N/A**: Mark (N) for No impacts and (P) for positive impacts and N/A for not applicable.
**(2) Low Impacts:** Mark (X) for Low impact. Low impact refers to activities with manageable impacts on the environment
**(3) Moderate Impacts:** Mark (X) for medium impacts. Medium impacts refer to activities that involve additional support and planning, implementation and monitoring of mitigation measures in order to decrease the potential impact.
**(4) Severe or High Impacts:** Mark (X) for High impact.

Name of engineer/CRG that filled in checklist:

Signature:

## Component 2: Environmental and Social Screening Form

*Table 8 E&S Screening Form for Component 2*

| | |
|---|---|
| Sub-project ID/title | Village / area |
| Type of Project | District / municipality |
| Involved CRGname (if applicable) | Province |
| Start date of sub-project | End date of sub-project |

| Nature of sub-project | | Category of sub-project | | | | Mitigation Measures | Costs |
|---|---|---|---|---|---|---|---|
| **Number** | **Environmental and Social Consequences** | **N&P Impact and N/A** | **Low Impact** | **Medium Impact** | **High Impact** | | |
| 1 | Is the activity a cause for dust pollution? | | | | | | |
| 2 | Is the activity a cause for noise pollution? | | | | | | |
| 3 | Will the activity create solid or liquid wastes that cause potential contamination of surface water and groundwater supplies? | | | | | | |
| 4 | Is the activity cause for substantial changes to water quality and quantity? | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | Does the activity cause the alteration of water flow? | | | | | | |
| 6 | Are there environmentally sensitive areas (protected areas, forests, national parks or wetlands)? | | | | | | |
| 7 | Does the activity threaten endangered and threatened species? | | | | | | |
| 8 | Is the selected site exposed to natural disasters? | | | | | | |
| 9 | Is there a risk of vulnerable people being excluded from project benefits? | | | | | | |
| 10 | Are there any Occupational Health and Safety (OHS) risks and hazards to workers and the community, both during construction and afterward? | | | | | | |
| 11 | Is there a risk of forced and child labor? | | | | | | |
| 12 | Is there a risk of GBV/SEA/SH for female project workers or beneficiaries? | | | | | | |
| 13 | Is there a security risk for project workers and assets in the area? | | | | | | |
| 14 | Is there enough sun for water solar pumps? | | | | | | |
| 15 | Will the activity create conflict among the people? | | | | | | |
| 16 | Are there any Important cultural or archeological sites nearby? | | | | | | |
| 17 | Might the project adversely affect communities or | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | vulnerable people living in the area? | | | | | | |
| 18 | Is there a need for voluntary land donation? | | | | | | |
| 19 | Is there a risk of check dam failure? | | | | | | |
| 20 | Is there a risk of groundwater depletion or reduced flow of surface water due to irrigation activities? | | | | | | |
| 21 | Will the construction of the check dam divert the water flow (temporarily or permanently)? | | | | | | |
| 22 | Will the check dam negatively impact the species in the upstream/downstream? | | | | | | |
| 23 | Will the check dam cause soil erosion (banks erosion)? | | | | | | |
| 24 | Will the check dam damage trees/grass due to rain water storage for a long time? | | | | | | |

**Note:**
**(1) N and P impacts and N/A**: Mark (N) for No impacts and (P) for positive impacts and N/A for not applicable.
**(2) Low Impacts:** Mark (X) for Low impact. Low impact refers to activities with manageable impacts on the environment
**(3) Moderate Impacts:** Mark (X) for medium impacts. Medium impacts refer to activities that involve additional support and planning, implementation and monitoring of mitigation measures in order to decrease the potential impact.
**(4) Severe or High Impacts:** Mark (X) for High impact.

Name of engineer/CRG that filled in checklist:

Signature:

## Sub-project / Site-Specific ESMP

Following the screening process, and the identification of adverse moderate, severe and high risks and impacts for a sub-project, implementers will fill out the below site-specific ESMP for the specific sub-project. **This ESMP only needs to be completed in the case of medium and high risks and impacts per the screening form.**

*Table 9 Sub-project specific simplified ESMP template*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date: | | | | | | | |
| Project ID: Title | | | | | | | |
| Name of village / district / municipality / province: | | | | | | | |
| CRGID code if applicable: | | | | | | | |
| Name of engineer filling in ESMP: | | | | | | | |
| Estimated Start Date of Subproject: | | | Estimated End Date of Subproject: | | | | |
| No. | **Risk or Impact** | **Description of Mitigation Measures** | **Monitoring Methods** | **Monitoring Frequency** | **Monitoring results** | **Corrective actions required** | **Person responsible** |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |

## Annex 2: Negative Project List

The following activities cannot be financed under the project:

Procurement of chainsaws;
Any activity with impacts on critical habitats (including Ab-i-Estada Waterfall Sanctuary; Aiar Valley (proposed) Wildlife Reserve; Dashte-Naware Waterfall Sanctuary; Bande Amir National Park; Kole Hashmat Khan (proposed) Waterfall Sanctuary);
Any activity that would cause damage on non-replicable cultural property (including the following sites: monuments of Heart, monuments of Bamiyan Valley, archeological site of Ai Khanum, sites and monuments of Ghazni, Minaret of Jam; Mosque of Haji Piyanda /Nu Gunbad, Balkh Province, Stupa and Monastry of Guldarra, sites and monuments of Lashkar-I Bazar, Bost, archeological site of Surkh Kotal);
Activities, equipment or materials that have alternative prior sources of committed funding;
Salaried activities that employ children below the age of 18 years;
Activities that unfairly exploit women or men at any age;
Activities that increase the vulnerability of subgroups or households or increase the overall inequality of communities
Any activity on land that has disputed ownership or tenure rights;
Any activity that would cause involuntary land acquisition
Any activity likely to increase social tensions and/or risk of violence beyond the given context
Any activity with significant environmental and social impacts and risks that require ESIA
Any other activity ruled out by the ESMF
Any activity that requires payments to government officials or institutions.
Any activity on land that is considered dangerous due to security hazards or the presence of unexploded mines or bombs
Any activity that would be inconsistent to relative national laws and regulations, will not be consider under WERP.

## Annex 3: Examples for Contractual Clauses for Contractors

The E&S management of construction, rehabilitation of installation activities can only be successful if: 1) the subproject is well designed and the right choice for the location of the project is made; and 2) if the contractors operate within the highest E&S standards. This annex contains key elements that shall be included in all relevant bid documents, contracts and work orders. All contractors will have to be in alignment with the dispositions contained in the Labor Management Procedures (Annex 4), namely on the responsibilities and requirements on SEA/SH and the Project GRM as well as requirements for workers' GRM.

*Table 10 Contractual Clauses for Contractors*

| Thematic Area | Content of Bidding Documents |
|---|---|
| **Prohibitions*:*** | The following activities are prohibited on or near the subproject site:<br>Cutting trees for any reason outside the approved construction area;<br>Disturbance to any artifact with architectural or historical value; Fire building;<br>The use of firearms (except by authorized security guards);<br>Use of alcohol by workers. |
| **Waste management** | Waste must be treated or disposed of.<br>Identify and delineate disposal areas that clearly indicate the specific materials that can be deposited in them.<br>Control all construction waste (including cuttings) generated by the sub-project and dispose of it at approved disposal sites (> 300 m from rivers, lakes or wetlands). Implement initiatives for reuse, recycling and the segregation of waste. |
| **Borrow pits** | Identify and demarcate locations for material storage and ensure that borrow pits are >50 meters away from critical areas such as steep slopes, erosion-prone soils, and areas that drain directly into sensitive water bodies.<br>Limit extraction of material in authorized and demarcated borrow pits. |
| **Cleaning and tidying up** | Establish and enforce daily cleaning procedures, including maintenance of facilities and proper disposal of construction waste. |
| **Safety during Construction** | The contractor's responsibilities include the protection of persons and property in the vicinity of the construction area. The contractor will be responsible for complying with all national and local safety requirements and any other measures necessary to prevent accidents, including the following:<br>Mark safe access routes for pedestrians.<br>Maintain vehicle speeds of 20 mph or less within the work area at all times.<br>Maintain the provision of traffic signs (including paint, trestle, sign material, etc.), road marking, and separators to maintain pedestrian safety during construction.<br>Conduct safety training for construction workers before starting work.<br>Stop all work in cases of heavy rain or any other emergency. |
| **Dust Control** | To control dust nuisance the proponent shall: |

| Thematic Area | Content of Bidding Documents |
|---|---|
| | Keep all construction-related traffic below 15 mph on streets within communities.<br>Maintain maximum speed of 20 mph in the work area.<br>Minimize the production of dust and particulate materials at all times to avoid impacts on surrounding households and businesses, and especially for the most vulnerable people (children, the elderly).<br>Avoid removing vegetation so that large areas are not exposed to wind.<br>Spray water as needed on dirt roads, mowing areas, and the stockpiles of soil or fill material.<br>Apply appropriate measures to minimize disruption from vibration or noise from construction activities. |
| **In case of furtive discoveries of archaeological material one should:** | Stop work immediately upon discovery of any material with possible archaeological, historical, paleontological, or other cultural value, and one should announce the discoveries to Project Manager and notify relevant authorities.<br>Must protect the artifacts, using plastic covers, and implement measures to stabilize the area, if necessary, to adequately protect the artifacts.<br>Must prevent and punish any unauthorized access to the artifacts.<br>Construction is returned only upon authorization |
| **COVID-19 Precautions** | Mandatory and correct use of masks<br>Promote frequent hand washing - provide a place to wash hands in the facility.<br>Employees who are healthy but have a family member at home infected with COVID-19 should notify their supervisor. |
| **Labor management** | Refer to LMP |
| **Environmental and Social Supervision during Construction** | The bidding documents must indicate compliance with the World Bank's E&S standards and specific E&S instruments of the project. Construction supervision requires compliance with the specifications in the environmental and social management plan and shall be supervised by a designated environmental and social focal person. Contractors are also required to comply with national and municipal regulations governing the environment, social, public health, and safety. |

# Annex 4: Labor Management Procedures

In accordance with the requirements of ESS2, LMP were developed for the project. The LMP set out the ways in which the AKF-PIU,UNOPS-PIU, PIEs, PESCs and their contractors will manage all project workers in relation to the associated risks and impacts. The objectives of the LMP are to: Identify the different types of project workers that are likely to be involved in the project; identify, analyze and evaluate the labor-related risks and impacts for project activities; provide procedures to meet the requirements of ESS2, ESS4 and applicable Afghan legislation.

The simplified LMP will be applied with due consideration to the requirements of national laws, the interrelatedness of ESS2 with other Environmental and Social Standards in general and ESS4 in particular. Provisions from the LMP will be included in site-specific ESMPs.

The following categories of workers have been identified for the project. The LMP will apply for all categories:

*Table 11 Worker Categories*

| Category | Description |
|---|---|
| **Direct Workers** | Workers employed directly by AKF and UNOPS, including consultants. |
| **Contracted Workers** | People engaged through third parties to perform work related to core functions of the project, regardless of location. Under this category are employees of any non-governmental implementers, including PIEs, PESCs and contractors. |
| **Primary Supply Workers** | People engaged by AKF, UNOPS, PIEs, PESCs or contractors' primary suppliers. These include, for example, suppliers of solar equipment. |

The LMP will apply to project workers including fulltime, part-time, temporary and seasonal.

The forecast of the types of workers required per Project component is as follows:

**Component 1: Provision of Emergency Water Supply in Identified Rural Areas**: Direct workers from AKF for the management and supervision of activities (ca. 15 direct workers for project management throughout the entire project duration); contracted workers from the PIEs (four PIEs with ca. 20 contracted workers each for the duration of the Project) and contractors for the implementation of activities (including construction / rehabilitation activities – ca. 15 unskilled laborers and 5 skilled laborers per sub-project site for the duration of the sub-project); and primary supply workers for construction and rehabilitation activities (ca. 20).

**Component 2: Improved Surface Water Irrigation Using Solar Technologies in Selected Rural Areas**: Direct workers from UNOPS for the management and supervision of activities (ca. 20 direct workers for the duration of the project); contracted workers from the PSECs (ca. 15 per PSEC for the duration of the Project) and contractors (ca. 5 skilled laborers and 5 unskilled laborers per site for the sub-project duration) for the implementation of activities (including installation activities); primary supply workers for supply of off-grid solar systems (OGS – ca. 20 workers).

**Component 3: Technical Training and Public Awareness Campaigns**: Direct workers from AKF, PIEs, contractors and contracted workers from consultancy services for the development and implementation of awareness campaigns.

**Component 4: Implementation Support:** Direct workers employed by UNOPS (ca. 15 for the duration of the Project) and AKF (ca. 15 for the duration of the Project) for project implementation support through the respective PIUs.

The LMP caters for all categories of project workers as described in ESS2. UNOPS staff and consultants will also be subject to UN regulations, expressed in ILO conventions and specific regulations of UNOPS.

**Labor Risk Assessment**: As part of the labor risks and impact assessment, the following activities will assist in understanding the exposure pathways. Presented here are only key risks related to workers of predictable activities: The main types of activities for contracted workers will be activities in the construction or rehabilitation of water supply and sanitation facilities and in the installation of OGS.

The table highlights and analyses the potential labor-related risks and impacts in view of the anticipated labor utilization and general baseline settings of the project area.

*Table 12 Labor Risk and Impact Assessment*

| Risk/Impact | Analysis (Magnitude, Extent, Timing, Likelihood, Significance) | Risk Mitigation Measures to be reflected in contract documents |
|---|---|---|
| **ESS2: Labour and working conditions** | | |
| OHS-related risks: due to exposure to hazardous chemicals<br><br>Poor working conditions: unsafe work environment<br><br>Risks related to exposure of leaking batteries which contain hazardous materials | Due to the protracted conflict in Afghanistan and the weakness of formal justice institutions, employees' working conditions may be poor and the project needs to ensure that such working conditions are not acceptable. The impact is significant in that it may manifest in exploitation of the very community that the project intends to benefit, i.e. community workers, but also contracted workers may be affected.<br><br>The emission of lead and battery acid to the workspace and the environment at large can cause severe and potentially life-threatening health risks for workers | Supervision of contractor labor management practices is essential to mitigate against this risk. A Contractor checklist will be used.<br><br>The project will ensure workers' GRM are in place, so that workers can articulate violations of their rights and receive redress.<br><br>Implementation of engineering and administrative control measures to avoid or minimize the release of hazardous substances into the work environment keeping the level of exposure below internationally established or recognized limits<br><br>Keeping the number of employees exposed, or likely to become exposed, to a minimum<br><br>Communicating chemical hazards to workers through labeling and marking according to national and internationally recognized requirements and standards, including the International Chemical Safety Cards (ICSC), Materials Safety Data Sheets (MSDS), or equivalent (any means of written communication should be in an easily understood language and be readily available to exposed workers and first-aid personnel)<br><br>Training workers in the use of the available information (such as MSDSs), safe work practices, and appropriate use of PPE<br><br>The equipment used in the works should be routinely serviced to ensure proper and safe equipment functionality<br><br>Use of safety signage to warn contractor workers and visitors to worksites<br><br>Provision of adequate signage and communication of risk to workers and communities |

| Risk/Impact | Analysis (Magnitude, Extent, Timing, Likelihood, Significance) | Risk Mitigation Measures to be reflected in contract documents |
|---|---|---|
| | | Provision of first aid kits |
| Poor working conditions: violation of workers' rights | The implementation of the existing articles in practice may not be very strong, given the weak judicial system | The project will ensure through the workers' GRM that workers can articulate violations of their rights and receive redress. |
| Use of forced labor | Forced labor associated with the polysilicon suppliers for solar-powered water pump systems | Conduct a track record search of the suppliers at the bidding process (record of health and safety violations, fines, consult public documents related to workers' rights violations etc.)<br><br>Raise awareness of suppliers to not engage forced labor<br><br>Conduct spot-check at supplier facility |
| Injuries at the workplace | The employer is obligated to provide adequate measures for health & safety protecting staff against related risks, including the provisions of appropriate PPE, safe and clean work environment and of well-equipped, constructed and managed workplaces that provide sanitary facilities, water and other basic tools and appliances. | Contractor occupational risk assessments and mitigation plans will be devised and implemented.<br><br>Implementation of OHS Plan |
| Non-compliance with labor and working conditions requirements | Given the weak judicial system, there may be non-compliance with labor regulations, including throughout the supply chain | Ensure that contractor implements Workers' GRM<br>Ensure adoption and implementation of Project GRM and Workers' GRM at every implementer<br>Ensure employees work 8 hours daily with a 1-hour lunch/prayer break, totaling 40 hours weekly. They earn a minimum wage of 5,000 Afn per month, with overtime paid for hours over 40 per week. Young workers (15-18) perform light, non-hazardous work that doesn't interfere with school.<br>Provide training on LMP to workers |
| **ESS4: Community Safety and Health** | | |
| Moderate Labor influx and GBV | There is likely to be internal movement of people from areas outside the project areas to seek employment and associated benefits from within targeted communities.<br><br>Furthermore, there will be moderate labor influx of contracted workers that may pose risks of SEA/SH among workers and vis-à-vis community members. | All contractors will implement the Labor Influx Management Procedure (see below) and the SEA/SH Action Plan (separate document)<br><br>Implementation of code of conducts (CoC) to be signed by all project workers and enforced by all contractors |

**Institutional Arrangement for Implementation of LMP**: The AKF-PIU will carry the main responsibility for the implementation and monitoring of the LMP in regard to Component 1 and 3. The UNOPS-PIU will carry the main responsibilities in view of the implementation of Component 2.

AKF and UNOPS PIUs, PIEs and PESCs will identify sub-project interventions and prepare subproject designs and bidding documents, as well as procure contractors. The PIEs and PESCs teams will be responsible for contractor and site supervision, technical quality assurance, certification, and payment of works or supplies. The PIUs will ensure labor management procedures are integrated into the agreements with PIEs and PESCs, and the PIEs and PESCs will cascade labor requirements down to their contractors through their respective contracts / bidding processes. The PIU will be responsible to assist PIEs and PESCs with the E&S screening process where necessary and to approve screening results and subsequent E&S plans, and to monitor and supervise the implementation of all E&S risk mitigation measures, including those laid out in the LMP.

The monitoring and supervision of the implementation of the LMP will rest with the Senior Social Development Specialist at AKF-PIU and the Social Development Specialist at the UNOPS-PIU. The Specialists will regularly analyze labor-related risks related to the project; oversee of all implementation of the LMP by PIEs and PESCs, and the monitoring of the same.

**Labor Legislation: Terms and Conditions**

**The Labor Law (2007)** provides a legal basis for safe and decent working conditions in Afghanistan. Key relevant provisions stipulate non-discrimination in recruitment (Art. 9), compliance with international conventions (Art. 12), working hours (Art. 30), breaks (Art. 40), non-discrimination in payment (Art. 59), and special provisions for female and youth workers (Art. 121, 127-130), over-time pay, night shift differentials and retirement benefits.

The law further stipulates safe and decent working conditions in Afghanistan, including occupational health and safety regulations (Chapter 10) that stipulates safety training, hygiene rules, protective equipment, and medical treatment when necessary. The law also addresses Work Standards and Regulations (Art. 88) and how labor disputes over terms and conditions of employment shall be resolved in the public, private and joint sector (Art. 89)

**Employment Relationship**: Employers shall adopt and adhere to rules and conditions of employment that respect workers and, at a minimum, safeguard their rights under national and international labor and social security laws and regulations. Wages for workers as per government policy shall be followed.

**Non-discrimination:** No person shall be subject to any discrimination in employment, including hiring, compensation, advancement, discipline, termination or retirement, on the basis of gender, race, religion, age, disability, nationality, political opinion, social group or ethnic origin.

**Harassment or Abuse:** Every employee shall be treated with respect and dignity. No employee shall be subject to any physical, sexual, psychological or verbal harassment or abuse.

**Forced Labor:** There shall be no forced labor, including prison labor, indentured labor, bonded labor or other forms of forced labor.

**Freedom of Association and Collective Bargaining:** Employers shall recognize and respect the right of employees to freedom of association and collective bargaining.

Furthermore, Article 4 of the Labor Law prohibits compulsory work, which is defined as work that is against the rules and regulations of the office, against the will of the worker, and performed under threat; Article 9 calls for nondiscrimination in recruitment; Article 12 requires compliance with the convention of the International Labor Organization; Article 30 concerns working hours and specifies that the normal working week is 40 hours; Article 40 requires employees to be given a one-hour break for prayers and lunch; the break is not included in the normal working hours Article 59 calls for non-discrimination in payment of salary; Article 91 in the chapter on Labour Norms and Discipline states the general obligations of the employer, which include ensuring labour safety and security at work; Article 92 lists the obligations of employees, which include following safety rules and practicing working environment hygiene; Chapter 10 is devoted to provision of health and occupational safety conditions at workplace and involves: Article 107 requires the employer to ensure safe and hygienic working conditions and Article 110 to follow legislated safety and hygiene standards; Article 111 compels the employer to provide continuous safety training and the employee to follow safety rules, standards and instructions and utilize personal protective equipment; Article 113 requests he employer to provide all necessary protection clothing and personal protective equipment, free of charge; Article 114 compels the employer to provide for first aid and for transfer to medical centres in case of accidents; Article 121 prohibits assigning female or youth workers to night duties; Article 127 defines youth workers as between the ages of 14 and 18; Articles 128 through 130 states the special requirements that must be followed in employing youth workers1.

The government of Afghanistan has ratified a number of international ILO conventions. These include the following – the Equal Remuneration Convention 1951, the 1957 Abolition of Forced Labor Convention, The 1999 Worst Forms of Child Labor Convention, and the Tripartite Consultation (International Labor Standards) Convention.[2]

**Legislation on Occupation, Health and Safety**

The Labor Law (2007) provides occupational health and safety regulations (Chapter 10) that include safety training, hygiene rules, protective equipment, and medical treatment when necessary, health insurance compensation, reduced standard work weeks for pregnant and nursing mothers and minors. Employers shall provide a safe and healthy workplace setting to prevent accidents and injury to health arising out of, linked

with, or occurring in the course of work or as a result of the operation of employers' facilities. Employers shall adopt responsible measures to mitigate negative impacts that the workplace has on the environment.

Article 108 of Labor Law describes mandatory assurance of health and safety conditions for the employer. The employer shall take appropriate precautions to ensure that the workplace is safe and without risk of injury to the safety and health of workers. Mitigation measures will be adopted to protect the workers present at or in the vicinity of site from all risks which may arise from the works.

The Project will further apply the IFC Environmental, Health and Safety Guidelines.[15]

**Terms and Conditions**

Applicable terms and conditions as per Afghan Labor Law will apply to the Project, as well as ESS2. This includes the requirement for a written service contract detailing the worker's salary, working hours & leave, rights and allowance, Code of Conduct, duration of contract, and terms and conditions for termination of contract by employer and worker alike. The contract should be signed by both parties, who each will keep a copy (Labor Law, Chpt 2: Recruitment and Service Contract).

**Hours of Work:** Employers shall not require workers to work more than the regular and overtime hours allowed by the law of the country where the workers are employed. The regular work week shall not exceed 48 hours per week. Employers shall allow workers at least 24 consecutive hours of rest in every seven-day period. All overtime work shall be consensual. Employers shall not request overtime on a regular basis and shall compensate all overtime work at a premium rate. Other than in exceptional circumstances, the sum of regular and overtime hours in a week shall not exceed 60 hours as per national working law.

**Compensation:** Every worker has a right to compensation for a regular work week that is sufficient to meet the worker's basic needs and provide some discretionary income. Employers shall pay at least the minimum wage or the appropriate prevailing wage, whichever is higher, comply with all legal requirements on wages, and provide any fringe benefits required by law or contract.

**Age of Employment:** Afghanistan has ratified all key international conventions on Child labor. The Minimum Age (15) for work (*Article 13 of Labor Law*), and the Minimum Age (18) for Hazardous Work (*Article 13* and *120 of Labor Law*) are in compliance with international standards. The Project will adhere to the Afghan Labor Law and its definition of minimum age, which will be verified through the national Identity card at the

[15] https://www.ifc.org/content/dam/ifc/doc/2023/ifc-general-ehs-guidelines.pdf

moment of recruitment. No person shall be employed under the age of 18 or under the age for completion of compulsory education, whichever is higher.

**Key Procedures**

The project is guided by the recognition of the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. It will promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. AKF, UNOPS, PIEs and PESCs, contractors and suppliers will ensure the full accomplishment of the objectives of ESS2. For ease of reference, all employers will be referred to as 'contractors'.

Recruitment and Replacement Procedure: The objective of this procedure is to ensure that the recruitment process and placement of contracted workers (see procedure below for community workers) is conducted in a manner which is non-discriminatory and employees are inducted to all essential work-related matters.

Hiring entity submits a recruitment plan to the respective PIU for review and approval. The following details will be shown;

- Number of staff required
- Intended working condition
- Intended locations of staff
- Job specifications in terms of qualification and experience

Hiring entity publishes the job invitation in the appropriate media (local press or direct invitation for contracted workers, or word of mouth through local leaders for community workers) to ensure all potential candidates have access to the information, including women, actively addressing risks of nepotism.

Shortlist and recruit candidates ensuring the involvement of as many women as possible;

- Screen off candidates under the age of fifteen years.

On recruitment, ensure a contract of employment is signed voluntarily, for both direct and contracted workers.

Before commencement of work, hiring entity will ensure employee is inducted on the essential work related issues, which include the following;

- Key Job Specifications
- Terms and Conditions of Employment
- Special Codes of Conduct
- Disciplinary Procedures
- Workers' Grievance Mechanism
- Freedom to join and participate fully in Workers Association activities or Trade Union

- Key E&S aspects of the project and the ESMF
- Emergency Preparedness and Response
- Maintain all such employment records available for review by the PIUs or the World Bank.

Occupational Health and Safety (OHS) Procedures: The objective of the procedure is to achieve and maintain a healthy and safe work environment for all project workers (contracted workers and community workers) and the host community.

- On procurement for contractors, the PIUs/PIEs/PESCs will avail the ESMF to the aspiring contractor so that the contractor includes the budgetary requirements for OHS and community health and safety measures in their respective bids.
- The contractor will develop and maintain an OHS management system that is consistent with the scope of work, duration of contract and IFC General Environmental Health and Safety Guidelines (EHSGs) on Occupational Health and Safety.
- The contractor will adopt all E&S risk mitigation measures proposed for the sub-project.
- Contractor appoints an appropriately qualified and experienced Safety, Health and Environmental Officer whose responsibilities is to advise the employer on OHS related issues.
- The contractor provides preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances informed by assessment and plan.
- Contractor provides for appropriate training/induction of project workers and maintenance of training records on OHS subjects.
- Contractor documents and reports on occupational accidents, diseases and incidents as per ESMF guidance.
- Contractor provides emergency prevention and preparedness and response arrangements to emergency situations including and not limited to workplace accidents, workplace illnesses, flooding, fire outbreak, disease outbreak, labor unrest and security.
- The contractor shall maintain all such records for activities related to the safety, health and environmental management for inspection by the PIUs, PIEs, PESCs, the World Bank, or the TPMA.

Contractor Management Procedure: The objective of this procedure is to ensure that the PIUs, PIEs or PESCs have contractual power to administer oversight and action against contractor noncompliance with the LMP.

- The contracting entity shall avail all related documentation to inform the contractor about requirements for effective implementation of the LMP.
- Before submitting a bid for any contract, the contractor shall incorporate the requirements of the ESMF, including the LMP.
- Contractor to provide a Labor Recruitment Plan
- Contractor to ensure all workers sign a Code and Conduct
- Contractor to show evidence of OHS and Emergency Preparedness procedures
- Contractor to submit the progress reports on the implementation of the mitigation measures, including those of the LMP, and allow the contracting entity access to verify the soundness of the contractor's implementation of the requirements of the LMP.

- Where appropriate, the contracting entity may require the contractor to stop the work until corrective action(s) is/are implemented on significant noncompliance of the LMP. The following are some of the noncompliance that contractors need to take note of:
- Failure to submit mandatory quarterly/monthly progress report
- Failure to avail for inspection specified documentation pertaining to the implementation of risk mitigation measures
- Failure to notify and submit incident and accident investigation report in a timely manner
- Failure to appoint or replace a competent and experienced EHS officer
- Recruitment of nontechnical staff from outside the local community.

Procedure for Primary Suppliers: The objective of the procedure is to ensure that labor-related risks, especially child and forced labor as well as serious safety issues to the project from primary supply workers are managed in line with the requirements of ESS2.

The PIUs, PIEs and PESCs and all contractors/implementers will undertake the following measures: Procure supplies from legally constituted suppliers. The legal registration ensures that the company is legally obliged to comply with all applicable labor laws in Afghanistan, which makes it possible to assume mainstreaming of the labor laws within the supplier's firm. This will include ensuring evidence of: certificate of incorporation; make a physical check on the supplier's labor management system, including OHS, any past work related environmental or occupational incidents, age restrictions (18 and above), employment is voluntary.

Procedure for Non-Discrimination and Equal Opportunity: The objective of this procedure is to ensure that recruitment and treatment of project workers is based on the principle of equal opportunity and fair treatment.

The PIEs, PESCs and contractors will apply the following guidelines when dealing with workers:

- There will be no discrimination with respect to any aspects of the employment relationship, such as: recruitment and hiring; compensation (including wages and benefits; working conditions and terms of employment; access to training; Job assignment; promotion; termination of employment or retirement; or disciplinary practices)
- Harassment, intimidation and/or exploitation will be prevented or addressed appropriately
- Special measures of protection and assistance to remedy discrimination or selection for a particular job will not be deemed as discrimination.
- Vulnerable project workers will be provided with special protection.

Grievance Redress Mechanism for all Workers: All workers, including community workers will apply the Project GRM to register any work-related grievances. Workers are encouraged to solve matters with their respective employer where possible. However, all types of workers can apply the Project GRM at any time, where grievances can be filed directly with the PIEs, PESCs or the PIUs (in cases where they concern a contractor).

Annex 5: Chance Find Procedures

**Chance Find Procedures**

Chance Find Procedures are defined in the Law on Maintenance of Historical and Cultural Monuments (Official Gazette, December 21, 1980), specifying the authorities and responsibilities of cultural heritage agencies if sites or materials are discovered in the course of project implementation. This law establishes that all moveable and immovable historical and cultural artefacts are state property, and further:

1. The responsibility for preservation, maintenance and assessment of historical and cultural monuments rests with the Archaeological Committee under the Ministry of Information and Culture, which has representation at provincial level.
2. Whenever chance finds of cultural or historical artefacts (moveable and immovable) are made the respective PIU should be informed, and the PIU will bring in appropriate experts to assess the findings. Should the continuation of work endanger the historical and cultural artefacts, the project work should be suspended until a solution is found for the preservation of these artefacts.
3. If a moveable or immovable historical or cultural artefact is found in the countryside of a province, the provincial governor (*wali*) or district-in-charge (*woluswal*) should be informed within two weeks, and they should inform the Archaeological Committee. In case the immovable historical or cultural artefact is found in a city, the provincial branch of the Department of Maintenance of Historical Values of the Ministry of Information and Culture should be informed within two weeks (art. 18). If the find is made within the centre, the Archaeological Committee must be informed directly within one week (art. 25).

In case of a chance find of movable or immovable historical or cultural artefact, the implementing agency is responsible for securing the artefact from theft, pilferage and damage until the responsibility has been taken over by the relevant authorities as specified above.

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

## Annex 6: Voluntary Land Donation Guidelines

The Voluntary Land Donation (VLD) applies when individuals or local groups wish to donate land for the subproject implementation, e.g. locations for the installation of OGS, the construction of WASH facilities or water pipes, etc…

As individual land ownership and respective land titling is not widely established in Afghanistan, the program will consider any household using lands prior to disclosed subproject commencement as having legitimate land use rights and such rights can be donated freely to the program, if the noted land is considered necessary for subproject implementation. Thus, in the following paragraphs "owner" refers to the owner of land-use-rights.

Voluntary land donations should generally be discouraged given the overwhelming vulnerability of Project-Affected Persons (PAPs). It should only be authorized for formal and non-vulnerable owners in exceptional cases. Activities or sub-projects have to clearly document (a) the potential donor or donors have been appropriately informed and consulted about the program and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the program; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. Procedures must be put into place to ensure that the donation is indeed voluntary, that the donor is the legitimate owner of land-use-rights on such lands, and that the donor is fully informed of the purpose of the donation and of the implications of donating the property. If the land is donated on a conditional basis, the terms and conditions for the temporary use of the property must be clearly documented.

Voluntary land donation is subject to prior Bank approval in each case, prior to determination of project location (including commencement of bidding or physical activities on the ground).

The following basic provisions must be complied with:

- Community-owned land to be donated, permanently or temporarily must be identified by the community through a participatory approach
- Impacts of proposed activities on donated land must be fully explained to the donor
- The potential donor is aware that refusal is an option, and that right of refusal is specified in the donation document the donor will sign
- The act of donation is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities
- The donor may request monetary or non-monetary benefits or incentives as a condition for donation

- The proportion of land that may be donated cannot exceed the area required to maintain the donor's livelihood or that of his/her household. It should not exceed 10% of the donor's total land.
- Donation of land cannot occur if it requires any household relocation
- For community or collective land, donation can only occur with the consent of individuals using or occupying the land; land donations by community leaders alone are not acceptable. Consent of individuals will be proven through signed participants sheets and minutes of community meetings held, in which every community member was invited to participate.
- Verification must be obtained from each person donating land (through proper documentation)
- The implementer establishes that the land to be donated is free of encumbrances or encroachment and registers the donated land in an official land registry
- Any donated land that is not used for its agreed purpose is returned to the donor.

Each instance of VLD in a subproject must be documented. This requires written notification indicating the location and amount of land that is sought and its intended use for the subproject, and requires a formal statement of donation, establishing informed consent and signed by each owner or user involved. Taxes to be paid by the land donor for registration of the land transfer, if applicable, should be covered in full by the implementer. The implementer maintains a record with documentation for each instance of land donation. The documentation is made available for review in any grievance that may arise and is provided to the World Bank upon request.

Grievances may be referred to the Project GRM. The grievance process imposes no cost upon those raising grievances, and participation in the grievance process does not preclude pursuit of legal remedies under the laws of the country.

It is possible to distinguish between "pure" donations without any compensation or support given to the person affected, vis-à-vis "partial" donations which involve some monetary or non-monetary benefits or incentives provided to the affected person. Both can be broadly classified as "voluntary donations" in the sense that the transfer of assets is done without involving the payment of compensation at replacement value. The project will apply the "partial" donation approach for vulnerable households, to avoid even small donations leading to livelihood impacts and will provide additional support to ensure no impact from the land donation. VLD may be allowed if no viable alternative exists, as long as the donation is to the benefit of the donor (such as a road rehabilitation program that will also benefit the owner of a small piece of land to be donated for the road works) but always conditional on the application of the above noted provisions. VLD cannot exceed 10% or the affected person's property to not adversely impact his / her livelihoods. If this amount is exceeded, proper compensation payments should be considered. Backyard small gardens, in which women often produce food for the family, generally must be avoided in such voluntary donations to not affect livelihoods.

All family members (including spouses) must be aware of the donation and must sign the transfer documents in order to minimize the risks of women users of land being donated being passed over in decision-making and the risks of cross-generational conflicts. Individuals using or occupying community or collective lands must provide consent to the donation to minimize the risks of settlers or migrants being passed over in

decision-making about land donation. The prior assessment of a subproject shall also take into consideration temporary users of lands and/or eventual access issues for them, including to water sources and in such cases ensure agreement on the subproject with such groups (e.g. pastoralists). Groups, like pastoralists, shall be specifically consulted even if they are currently residing in different locations. Their locations must be identified and consultations need to take place at their location. The land donation processes will be monitored.

# Annex 7: Integrated Pest Management Plan

## Introduction

Since irrigation for agricultural activities will be funded through the Project, activities need to comply with the Afghanistan Pesticide Law (2015) and the World Bank ESS. Agricultural activities may lead farmers to use agrochemicals. In order to prevent adverse impacts of pesticides, this PMP should be applied. It ensures that the program avoids, minimizes, and/or offset adverse environmental and health impacts resulting from the use of pesticides.

The pest may be defined as any organism whose presence causes economic loss or otherwise detracts from human wellbeing and safety in general. In this context. The term covers a broad range of organisms (plants, animals and microorganisms) that reduce productivity of agriculture.

This Integrated Pest Management Plan (IPMP) attempts to manage potential pest problems that may arise in the course of the Project implementation and help ensure that the use of all pesticides, insecticides, herbicides, chemical fertilizers and other chemicals associated with the Project will be handled appropriately and in accordance with the World Banks ESS. The plan is based on an integrated pest management approach, which promotes good agricultural practices through the use of responsible and sustainable activities that will result in a rational and reduction in pesticide use. The objective of the PMP is to promote the use of a combination of environmentally and socially friendly practices (hygienic, cultural, biological or natural control mechanisms and the judicious use of chemicals) and reduce reliance on synthetic chemical pesticides and ensure that health, social and environmental hazards associated with pesticides are minimized.

Afghan agriculture faces threats from pests and diseases from outside, such as the entry of wheat stem rust (Ug99) and corn rootworm with adverse impact on agricultural production. Pest and diseases from within are the Wheat yellow rust that causes significant production losses. Besides these, measures need to be developed to control against Moroccan locust, Colorado potato beetle, Baluchistan melon fly etc. All agrochemicals used in crop protection in Afghanistan are mainly from China, Iran and Pakistan. The absence of adequate pesticide regulations and enforcement personnel facilitates the entry of illegal pesticides. Wheat is the most important staple crop in Afghanistan, covering 80% of all grain production in Afghanistan. Following wheat are barley, corn, rice, potatoes, cotton, nuts and fruits (e.g. grapes, melon and watermelon).

## Pest Management Approach

**Problems and Constraints of Pesticide Use in Afghanistan**

- An average farm size in Afghanistan varies from 2 to 5 ha of land. Most farmers cannot afford high-tech and expensive inputs available in the market.
- Afghanistan has had written regulations on pesticide use since 1989, but these are not enforced and are largely ignored due to lack of resources. A new pesticides act has been drafted in 2009 but is yet to be officially adopted.
- Illegal products, including non-registered products and internationally banned products, do enter Afghanistan on a regular basis. Many banned pollutants like DDT, dieldrin, HCH, heptachlor and lindane etc. are easily found in retail shops in smaller towns and border towns, because they move easily across land borders.
- Pesticides repackaging by the local traders is not uncommon in Afghanistan. This results in both sellers and farmers coming into contact with concentrated active ingredients. It is also not uncommon for these traders to dilute the active product with water or talc and sell them to illiterate farmers.
- It is common practice with farmers to store their pesticides at home and not lock them out of reach of children. Farmers are also not aware of day-to-day health risks and chronic health risks for pesticides.
- Identification of pests is very important to counter crop diseases. However, it is also important to identify beneficial insect pathogens, spiders, predators, and parasites etc.
- Incorrect dosage use of pesticides is a serious issue among farmers. Over and under-dose and use of non- selective pesticides can lead to pesticide resistance.
- There are risks to people eating fruits and vegetables contaminated with pesticide residues. This is especially true with cotton pesticides, which are very often diverted for use on food crops. There is also a likelihood of livestock and domestic animals getting poisoned by accidental exposure to pesticides.
- There is hardly any personal safety protection equipment available in the market. Even if they are available, the farmers feel reluctant to wear them.
- Care is hardly taken by the farmers to dispose of expired pesticides. Many of these pesticides remain active even after the expiry date.

There are therefore significant risks of error that may occur and farm family members may be acutely or slowly poisoned and their environment polluted and damaged.

**Potential relevant crops and related pests**

Wheat (Triticum aestivum): grasshoppers, aphids corn ground beetle

Rice (Oryza sativa): grasshoppers, Fusarium ear rot/Fusarium stalk rot, Common rust/smut

Corn (Zea mays): Bacterial soft rot, Charcoal rot, Common rust/common smut

Barely (hordeum vulgare): Bacterial soft rot, Charcoal rot, Common rust/common smut

Potato (Solanum tuberosum): Bacterial ring rot, Cucumber mosaic, Curly top

Cotton (Gossypium): Cut worm, Cotton bollworm, Cotton aphid

Apricot (Prunus americana): Brown rot blossom and twig blight, Ripe fruit rot, Aphids, Branch and twig borer

Peach (Prunus persica): Plum moth, Brown peach aphid, Plum scale

Apple (Malus domestica): Powdery mildew, Fire blight, Apple scab

Grapes (Vitis vinifera): Downy mildew, Powdery mildew, Armillaria root rot

Almond (Prunus dulcis): Aphids, European red mite, Fruit tree leafroller

Melon and Watermelon: Anthracnose, Fusarium crown and foot rot, Fusarium wilt

Tomato (Solanum lycopersicum): Alternaria stem canker, Fusarium wilt, Beet leafhopper

**Pesticides Management**

Data on pesticides poisoning and environmental contamination are often not available or difficult to obtain, since no regular government system exists for regular monitoring of the risks. Additionally, medical personnel at rural clinics are not well trained to recognize and adequately treat

pesticide poisoning, and antidotes are not systematically available in rural areas. The plan of action under the IPMP should contribute to reverse negative tendencies.

**Good Management Practices**

In recent years, much discussion has been made about the residual effect of insecticides used in agricultural crops, mainly imidacloprid, on pollinating agents, but with little information for Afghanistan in particular. There are several measures that can be taken to reduce the damage from pesticides to pollinators, in particular to bees. Some of these measures can be taken by the beekeeper himself while others must be carried out by specialists and insecticide applicators.

In the case of the Project, there is no envisaged distribution of pesticides among the beneficiaries. However, if required, extensionists will be responsible for ensuring the correct application of pesticides, including training. Mitigation measures proposed to reduce the impact of pesticides on pollinators, include:

Apiary locations: Beekeepers in the region will be identified, the locations where hives exist or if it is intended to place apiaries, ensuring that they are relatively isolated from agricultural fields;

Educational programs: For specific identified beekeepers, specific training (example: colonization mobilization techniques) will be carried out;

Indication for the use of pesticides: Insecticides with high toxicity for bees should not be applied to crops in full bloom, including adjacent crops or intercropping and herbs in full bloom. If it is necessary to apply pesticides during the flowering of the crop, it is recommended, whenever possible, to choose an effective product to combat the pest in question, but of low toxicity to bees.

Guidance for the application time conferring low risk: The pesticide application time can be crucial to the severity of their impact on pollinators. Pesticides whose active ingredient degrades a few hours after application can be sprayed during the night, in the early evening or early morning, with relative safety for bees.

Guidance for the use of selective insecticides: Integrated programs that rely on biological and cultural methods, as part of the integrated pest management system, tend to minimize the use of pesticides and reduce the negative impact on beneficial insects, especially pollinating agents. Thus, the use of integrated
pest management methods that include the use of organic pesticides will be observed.

Disposal of pesticides in places that offer a low risk: Unused insecticides for agricultural use should not be discarded in areas where they may become a potential source of poisoning for bees. For the safety of man, the environment and pollinating insects, pesticides must be disposed of in accordance with national
Legislation.

Further good management practices include the following:

Soil nutrient, texture and pH testing;

Plant leaf analyses;

Pest-resistant/tolerant seeds;

Seed treatment with pesticides;

Raised-bed planting technique;

Soil sterilization using black plastic and sunlight;

Use of organic mulch;

Use of organic fertilizers/soil structure amendments (manure, compost);

Combinations of organic and mineral fertilizers;

Crop rotation with and use of green manure crops;

Early/late plantings/harvestings to avoid pests;

Use of trap crops to trap and destroy pests;

Regular field scouting to assess pest levels/damage;

Ability of farmers to identify pests correctly and also to identify predators, parasites, and pest diseases correctly;

Pruning and sanitation of diseased plants

Planting parasite-attracting plants on field margins;

Mechanical weed control by hand hoe;

Use of herbicides for weed control;

Exclude insect pests by using vegetable tunnels and micro-tunnels; Mechanical insect control by hand-picking larvae, pupae, or adults;

Use of insecticides for insect control;

Use of fungicides for control of fungus;

Spot treatment of pest hotspots with insecticides, miticides, or fungicides; Use of pheromone traps to monitor moth levels;

Use of pheromone inundation to confuse moth mating;

Crop stalks and residue destruction at the end of season;

Apply local plant extracts (neem, parathyroid etc.) to kill pests.

***Measures to deal with Pesticides***

Some of the measures that need to be taken to deal with issues of pesticides are as follows:

- Development of quarantine protocol and guidelines for boundary quarantine as well as inter- provincial and district quarantine activities to prevent the entry and/or contain the spread of the plant pests and diseases of key agricultural crops.
- Development of knowledge banks on major plant pests and diseases for effective monitoring, specifically life cycles and control mechanisms, including mechanical, cultural and chemical interventions.
- Plant pest and disease surveillance and early warning system for major plant pests and diseases with greater participation of trained farmers.
- Development of bio-control and IPM technologies, including expertise in mass rearing of key biocontrol agents against major plant pests and/or diseases; establishment of bio-control laboratories and mass-rearing stations of key bio-control agents.
- Development of regulatory systems for agrochemicals and enforcement of pesticide policies and regulations to prevent entry and use of illegal pesticides currently being smuggled into the country.
- Establishment of pesticide residue laboratories at the provincial level.

- Trade-related Plant Protection Regulations: Specifically the development and implementation of SPSS measures and Codex-MRL standards pertaining to food safety and animal/plant health regulations as well as enhancing exports of key Afghan agricultural commodities.

- Development of certification systems for agricultural inputs and products.

- Knowledge and skills on non-formal education techniques and processes to ensure quality training of farmers.

**Training and capacity building**

A significant factor that can be expected to work as a constraint in the adoption of IPM practices is the attitude that pesticides are modern "medicines" that provide fast and effective cure for all problems affecting crops. Therefore, the success of an IPM strategy depends not only on the ability of the Project to define an IPM program and link it with strategic partners (private companies or NGOs), but also on the capacity of the different actors (extension services, farmers, private organizations, strategic partners) to fulfill their commitments in these areas.

The latter requires investment in training and monitoring. Important training aspects could be done with lead farmers or involving experienced farmers. The success of IPM will depend largely on developing and sustaining institutional and human capacity to facilitate experiential learning for making informed decisions in integrating scientific and local knowledge to minimize potential detrimental impacts of the use of pesticides. Poor communication between farmers and extension workers could lead to poorly-targeted research or to poor adoption of promising options generated by research. Ideally some of the training should be led by farmers themselves targeted to other farmers. Additionally, experience exchange among different farmers' communities could prove essential for the outcomes intended with this plan.

Key training should include the following aspects:

1. Awareness building among farmers to purchase pesticides in single-use sachets.

2. Provide information and demonstration to farmers in local languages about the labels, chemical composition, use of dosage, risk reduction, safety pictograms and safety equipment and their protection against health hazards etc.

3. Awareness building on storage of pesticides in safer places and keeping them away from children, old and pregnant women.

4. Awareness-building on beneficial pests and insects. Farmers need to be trained to identify beneficial insect pathogens, spiders, predators, and parasites.

5. Farmers need to be trained to keep livestock and domestic animals away from pesticides. 6. Farmers need to be motivated to use safety equipment.

## Possible Interventions in IPM

Based on issues that have been identified, a general outline of various types of pest control strategies can be further investigated and disseminated in wider areas, including the project areas, on the basis of evidence. These include a brief review of techniques for biological control, cultural control, chemical control, quarantine and physical or mechanical control, chemical control and botanical control.

**Strategy for Intervention and Pesticide Management Action Plan**

Biological control involves the use of biological agents and predators to control pests and diseases. The method is usually successful in some crops and involves conservation or optimization of the impact of living agents that already exist in the ecosystem, artificially increasing the number of natural enemies in the agro-ecosystem, introducing the new natural enemy species where these were nonexistent.

Evidence shows that every living organism has its natural enemies and diseases, which keep its population at balance. Natural enemies include predators, parasitoids, nematodes, fungi, bacteria, viruses, etc. The use of predators, parasitoids, nematodes, fungi, bacteria and viruses to maintain the population density of pests at a lower level than would occur in their absence is a common method under biological control or simply bio-control.

In the plant kingdom resistance to pests is the rule rather than the exception. In the coevolution of pests and hosts, plants have developed defense mechanisms. The mechanisms may be either physical (waxy surface, hairy leaves, etc.) or chemical (production of secondary metabolites) in nature. Pest-resistant crop varieties either suppress pest abundance or elevate the damage tolerance level of the plant. In other words, genetic resistance alters the relationship between pest and host. The inherent genetically based resistance of a plant can protect it against pests or diseases without recourse to pesticides.

In the project area farmers will be encouraged to work together to make experiments and come up with combinations that are suitable for the area.

**Cultural and Crop Sanitation Practices**. Pests may also be controlled through the adoption of improved cultural and crop sanitation practices. Some of these include:

- Crop rotation: this practice is used to depress weeds and/insect pests and diseases in some crops. For example, Striga in sorghum and millet can be controlled/reduced by planting a trap crop like groundnuts or cotton;
- Intercropping: the field is used to grow two or more crops at the same time, which among them interchange disease control elements;
- Relay cropping: where one crop is related with another to reduce the infestation of weevils, for example;

- Fallow: the field is not cultivated for some years in order to control various parasitic weeds;
- Cover crops: these are leguminous crops, which are grown to suppress weeds in the field. They can be intercropped or not and they protect and cover the field
- Trap crops: these induce the germination of a pest. The trap crop can be intercropped or rotated with a susceptible host
- Mulching: this is covering of crop fields by dry grasses to control weeds and conserve soil moisture
- Hand pulling and hoes weeding: these practices are the most common and being used by small scale farmers. In moments of relative abundance of labor in rural areas, this practice can be adopted easily;
- Burning: land clearing and destroying infected plants/crops. Although it is fundamental to ensure that burning is strictly controlled and limited to the areas and species being targeted and do not spread to other areas;
- Fertilizer/manure application: the application of nutrients in the form of either inorganic fertilizer or farm-yard manure reduces both the infestation of fields by weed and losses in crop yield;
- Use of disease free planting material

As with biological control, existing knowledge and experiments in the project area should be used and/or carried out to identify the practices that are more suitable to local conditions. Based on evidence these should be disseminated.

**Chemical Control**: These measures involve the use of herbicides, insecticides and fungicides to manage weeds, pests and diseases. As already explained, they should be used under certain conditions and when the other less intrusive and poisonous measures have proved to not be effective. All the aspects of capacity building of individuals and institutions should be used to ensure that the use of chemicals is not done to the detriment of the health of humans and other living organisms and consequently ensuring a healthy environment. They can be applied as liquid spray, in the form of granules, powder or fumigation in stores.

## Training and Capacity Building

A series of measures are being proposed to mitigate the potential adverse impacts likely to occur as a result of pesticide use in the project areas. The primary mitigation measure includes training of farmers and extensionists in the pesticide chain in safe and thoughtful pesticide use and management. The latter includes provision of Personal Protective Equipment (PPE); and supervision and monitoring.

**Institutional Strengthening**: The success of IPM depends largely on developing and sustaining institutional and human capacity to facilitate experiential learning for making informed decisions in integrating scientific and indigenous knowledge to solve specific problems. Poor communication between farmers, extensionists has often led to poorly-targeted research or to poor adoption of promising options generated or that could be generated by research.

A sound IPM in Afghanistan can only be achieved through a good and practical combination of scientific and applied/participatory research involving farmers (including women), extensionists, and researchers. For this specific reason, stakeholders need to get together and in a process with multiple stages agree on issues to be addressed and monitor it.

**Training and Capacity Building**: Capacity building will be achieved through farmer-based collaborative management mechanisms under which the extensions will facilitate the process and provide technical direction and any other support necessary for the implementation of the activities. More specifically training on IPM, targeting farmers, local leaders, will include, but not be limited to:

Learning-by-doing/discovery training programs: farmers are most apt to adopt new techniques when they acquire knowledge and skills through personal experience, observation, analysis, experimentation, decision-making and practice. This allows them to identify farmers' own knowledge and for farmers to understand how IPM applies to their own farms.

Recovering collective memory: pest problems often emerge because traditional agricultural methods were changed in one way or another, or lost. These changes can sometimes be reversed. This approach uses group discussions to try to identify what changes might have prompted the current pest problem.

Focus groups discussions: regular meetings among women, men, and the youth to discuss production problems including pests and related problems can assist in the success of various control methods. These meetings should be promoted using all forms of local incentives.

Demonstration projects: farmer-field schools can be very effective at promoting IPM within the local community. These pilot sessions demonstrate IPM in action and allow farmers to compare IPM with ongoing cultivation supported by synthetic pesticides. Educational material: basic written and photographic/figures guides or even videos about pest identification and crop-specific management techniques are essential for training and could be an important factor in motivating farmers to adopt IPM.

Pesticide selection: indicating the list of authorized pesticides per target pests, indicating their level of toxicity and hazardous, possible harmful effects and past experience of using those pesticides for the pest and the crop.

Understanding the pesticide label: explaining all the information included in the label. Pesticide transport: give indications on how to transport pesticides in order to avoid any leakages and avoid contact with persons or animals.

Mixing and loading pesticides: explain the importance of ensuring the proper dilution of the concentrated pesticide and the need to use protective clothing.

Pesticide storage: give indications on how to store pesticides (i.e. site location (not allowed in flood areas), security (against illegal entries, as well as children and livestock), isolated from housing, well ventilated, waterproof roof, have a current inventory list of pesticide stock.

Container disposal: giving indications on how to dispose used pesticide containers

Obsolete pesticides: explain the risks associated with obsolete pesticides and procedures to be followed.

Calibration, product quantity and pesticide application: explaining the importance of application equipment calibration and how to do it.

Determining the amount of chemicals to use: giving explanations on methods to find out the amount of chemicals to apply per hectare and levels of dilution.

Precautions related to the application of pesticides: giving indications on important precautions for safe use of pesticide.

Toxicity, human protection and first aid: explaining the possible effects of pesticide on human health, ways of pesticides entering in the body, importance of protective clothing and other protective equipment, basic first aid for pesticide exposure (with skin, mouth, eye or respiratory system).

## Annex 8: Stakeholder Consultations

AKF and UNOPS have undertaken the following stakeholder consultations for the preparation of this document:
AKF conducted brief consultations with national and regional staff and communities in the target geographies to document water sources and potential challenges of implementation in those communities. Furthermore, AKF is in the process of exploring partnerships with various INGOs as potential implementing partners in the geographies where AKF does not implement. At this stage, AKF has shared a summary of the technical components and geographies after providing detail on the budget and donor. Based on initial discussions, some of these partners have geographical presence and capacity in the target provinces mentioned under this project.
Details about the meetings and consultations held by AKF with stakeholders are presented below. Names of stakeholders have been omitted in the public version of this document.

*Table 13 Previous AKF Stakeholder Consultations*

| **Place** | **Date** | **Key points raised** |
|---|---|---|
| Online | 27/10/22 | ● Pre-qualification criteria and selection process of private sector energy companies (PSCEs) needs to be transparent<br>● Concerns about cost-share requirement of PSCEs<br>● Critical importance of community buy-in |
| Badakhshan, Baghlan, Takhar, Bamyan, Parwan, Samangan, Balk | Week of October 8th | ● AKF conducted brief consultations with national and regional staff in the target geographies to document water sources and potential challenges of implementing in those communities |
| Online | 15/11/22 | ● AREU generally confident in PSCEs capacity to contribute cost-share requirement; AKF requires more information<br>● Further discussion required on experience of PSECs with proposed modality |

UNOPS conducted additional stakeholder consultations after the effective date, in August and September 2023, and updated the SEP accordingly. Consultations were held online and through in person meetings with local NGOs and PSECs at national and regional levels. Further consultations will be held throughout project implementation, specifically once sub-project locations have been identified. Issues raised during the consultations included the challenges of solar water provision in some communities and environmental concerns that it could lower the

groundwater level in the long term. Caution was raised that solar installations may only operate when there is sufficient sun. The Project will only select sites with year-round running water. Furthermore, it will not select sites that have negative impacts on downstream beneficiaries/communities. The UNOPS technical feasibility study that is currently underway and will feed into the selection of locations and preparation of technical designs for Component 2 will also be accompanied by stakeholder consultations prior to the commencement of works. Below are the results of the recent consultations. The Project team has taken note of the valuable inputs.

*Table 14 Previous UNOPS Stakeholder Consultations*

| Place | Date | Key points raised |
|---|---|---|
| Online | 16/08/23 | The targeted community for the irrigation infrastructure should be mobilized well and all the project's output and components should be explained to the community to avoid further social problems. The community plays a key rule on successful completion of the irrigation infrastructure.<br><br>Given new settlement patterns, communities are asking for additional stand posts of water.<br><br>Poor waste management practices endanger existing drinking water sources and health in some rural areas, drought and flood risks.<br><br>Maintaining drinking water norms and standards can be a challenge.<br><br>Agricultural water supply by solar system is beneficial and a good opportunity for poor farmers and people. However, it could be harmful in future as it may affect the underground water level due to over-pumping.<br><br>Solar installations will provide lower output in cloudy weather: they require adequate sunlight to function properly. Solar power systems also have very complicated operation and maintenance. The solar installations may be damaged by heavy winds and stone.<br><br>Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio. Absent, inadequate, or inappropriately managed water and sanitation services expose individuals to preventable health risks.<br><br>The water supply projects fed by deep wells and solar systems, frequent drilling of deep wells should be avoided and decreased and should be controlled by the government due to an organized policy. One should focus on underground water improvement by focusing on the watershed management, flood water management, reservation of snow and constructing and extending of new canals from the main water resources.<br><br>For good stakeholder engagement, the team should conduct regular meetings as these are an essential part of communication and collaboration. They can also help you build trust, rapport, and commitment among the project participants.<br><br>For WASH it is good to consult the stakeholders through the WASH cluster and for both water supply and irrigation online meetings could be conducted. |

| Place | Date | Key points raised |
|---|---|---|
| Meeting | | Challenges for water and irrigation-related services are that communities delay payments or they simply don't pay. Occasionally there is misuse of the system, or there are self-repairs breaking the system. This is often based on the lack of a roadmap and proper planning.<br><br>Risks for solar-based clean drinking water and irrigation include: water rights issues may occur, which may need be be handled at community level; land issues could delay the project; deteriorated water quality may not allow for drinking water; communities at selected sites may not be economically viable to pay for services; risks of floods and storms will require the installation of equipment in protected locations.<br><br>Key measures to promote the renewable energy market include ensuring the use of high-quality solar panels; establishing solar quality laboratories for panel testing; reducing government taxes on solar panels; and raising public awareness about solar adaptation.<br><br>In view of a GRM, the most efficient way is to allow filing of grievances through emails, telephone, mobile apps, online meetings. |
| Badakhshan, Takhar, Kunduz, Baghlan | 04/10/22 | There is a general lack of trust among people in the implementation of development projects due to incompleteness of previous projects.<br><br>In the case of a detailed technical and social survey, negative effects will not occur in the area.<br><br>Water sources should be tested for safety and health<br><br>The water sources should cover the villages that used the source before to avoid conflict over water rights.<br><br>Water sources and water networks should not cause damage to housing, people and animals.<br><br>Before implementing the project, the people of the village should get enough information about the importance of the project<br><br>Build the capacity of the complaint committee at the village level.<br><br>Those who do not have any resources for livelihoods are homeless, women, families whose jobs have been lost due to recent developments, and others who are unable to provide for their livelihood in the current situation. |

| Place | Date | Key points raised |
|---|---|---|
| Kandahar | 04/09/2023 | Maintenance and operation of water infrastructure can be a problem to ensure long-term functionality.<br><br>There is water scarcity and the need for effective water management strategies.<br><br>Ensure community participation and ownership in the management of water resources.<br><br>The key challenges related to water in rural communities include: Limited access to safe and clean drinking water; insufficient irrigation infrastructure and water storage facilities; dependence on rainfall for agricultural activities, leading to vulnerability during dry spells; water contamination and waterborne diseases.<br><br>There is a lack of awareness about water conservation practices and sustainable water use.<br><br>Environmental risks: Proper environmental assessments should be conducted to ensure that the installation does not cause harm to local ecosystems, habitats, or natural resources. Care should be taken to minimize soil erosion and disturbance of the surrounding environment during installation.<br><br>Social impacts: The installation may require land acquisition or use, which should be carried out in a fair and transparent manner, respecting the rights and interests of local communities. Adequate consultation and participation of community members should be ensured to address any concerns or potential social conflicts.<br><br>Some key risks in promoting clean drinking water and irrigation includes: waterborne diseases: Ensure proper water treatment, hygiene practices, and safe storage can mitigate the risk of waterborne diseases; sustainability of water sources: implementing sustainable water management practices, such as rainwater harvesting, groundwater recharge, and efficient irrigation techniques, can help mitigate the risk of depleting water sources; infrastructure maintenance: Regular maintenance and operation of water supply and irrigation infrastructure are crucial to ensure sustained access to clean water and efficient irrigation; behavior change: Promoting awareness on proper water use, hygiene practices, and the importance of clean water can help mitigate risks associated with behavior patterns that may contaminate water sources.<br><br>Other key stakeholders in regard to water supply and irrigation activities include: local government authorities and relevant departments responsible for water resource management and agriculture; community-based organizations and local community members; NGOs working in the water and agriculture sectors; donors and funding agencies supporting water and agricultural development projects; technical experts and consultants specializing in water resource management and irrigation.<br><br>Here are some effective ways to provide project information and report back: regular project updates and reports through email communication; conducting stakeholder meetings, workshops to share progress and gather feedback; providing |

| Place | Date | Key points raised |
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| | | project updates and reports through social media platforms; regular project updates and reports through email communication; conducting stakeholder meetings, workshops to share progress and gather feedback; providing project updates and reports through social media platforms.<br><br>GRM should include a helpline, grievance box, email address, where stakeholders can submit their grievances and feedback. Provide clear and accessible information on how to file a grievance or provide feedback through project communication channels and informational materials. Ensure confidentiality and anonymity for stakeholders who wish to report grievances or provide feedback. Acknowledge receipt of grievances and provide timely responses to address concerns and provide updates on actions taken.<br><br>The most vulnerable stakeholders include: smallholder farmers and agricultural laborers who heavily rely on irrigation for their livelihoods; women and girls who are often responsible for water collection and may face challenges accessing clean water and sanitation facilities; marginalized and disadvantaged communities with limited access to water resources and infrastructure; people living in remote or geographically isolated areas with inadequate water supply and irrigation facilities; communities facing environmental challenges, such as drought-prone regions or areas prone to water scarcity. |
| Balkh | 04/09/2023 | Most of the irrigation canals are built using low technology approaches (muddy) and not properly straight. Near each canal trees have been planted and in order to build new stone canals, it will be difficult to remove the trees from the side of the canals.<br><br>Changing labor patterns make labor-intensive irrigation unattractive.<br>Canals are unlined and have unchecked vegetation growth.<br>There is insufficient external support such as markets, agrochemical inputs, extension and credit facilities.<br><br>User participation at the planning and design stages of both new schemes and the rehabilitation of existing schemes is important, as well as the provision of extension, marketing and credit services, can minimize negative impacts and maximize positive ones.<br><br>Locating the irrigation project on the site where negative impacts are minimized.<br><br>Improve the efficiency of existing projects and restore degraded croplands to use rather than establishing new irrigation projects.<br><br>Develop small-scale, individually-owned irrigation systems as an alternative to large-scale, publicly-owned and managed schemes.<br><br>Use sprinkler irrigation and micro-irrigation systems to decrease the risk of waterlogging, erosion and inefficient water use. |

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| | | Use treated wastewater, where appropriate, to make more water available to other users.<br><br>Maintaining flood flows downstream of the dams to ensure that an adequate area is flooded each year, among other reasons, for fishery activities.<br><br>Most of the people, because of lack of water and drought or dry climate, have been using solar panels, water pumps for their agriculture activities. All farmers know that it's good during the drought and lack of water to use solar panels, water pumps for agricultural activities, but not permanently. Every year the ground water is going down and the farmers are suffering more. It's best if we build a new irrigation canal in the local areas and avoid the wastage of water and use from the rivers water as drinking water by using the water filters. |
| Badghis | 04/09/2023 | The Key challenges in the provision of water/irrigation services to the affected rural area that we faced as an NGO are: lack of suitable roads to transport the construction material to project site; lack of skill labors/experts for construction activities; lack of local construction material sources and financial problem; successive droughts and lack of irrigation system; lack of awareness of communities about water safe storage and irrigation.<br><br>The Key challenges in regard of water in the rural communities are: lack of basic water infrastructure such as pipelines, storage facilities and irrigation system; climate change and natural disaster impacts such as unpredictable rainfall patterns, increased frequency of droughts and floods; lack of education and awareness about water management, sanitation practices, and the importance of water conservation can hinder progress in rural communities; socio-cultural factors such as gender rules, community dynamics, and local traditions may affect the acceptance and adoption of technologies or management practices, requiring careful consideration and community engagement.<br><br>The Key environmental or social risks and impacts of the installation of solar panels, water pumps include: the installation of solar panels and associated infrastructure may require land acquisition, potentially leading to conflicts over land rights and the displacement of local communities; production of solar panels involves the extraction of raw material of earth and can have environmental consequences, including habit destruction, soil erosion, and water pollution if not managed properly.<br><br>There is a risk of water contamination during collection, storage, or distribution, which can lead to waterborne diseases including bacteria, viruses, chemicals or pollution from various sources.<br>The project will need to implement proper water treatment processes, such as filtration, disinfection, or chlorination to ensure water quality and educate communities about safe water handling and storage practices.<br><br>Climate change impacts, such as changing rainfall patterns, droughts, or floods, can affect water availability and irrigation practices. Incorporate climate resilience into project design by considering water storage, rainwater harvesting, or |

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| | | groundwater recharge systems. Promote efficient water management and irrigation techniques, such as drip irrigation to minimize water usage.<br><br>Social and cultural factors can influence the acceptance and success of clean water and irrigation projects. Gender dynamics, local traditions, or community engagement challenges can impact project outcomes. Conduct social assessments and engage with communities to understand their needs, preferences, and cultural practices related to water and irrigation.<br><br>Foster inclusive participation and ensure the involvement of women and marginalized groups in decision-making processes. |
| Kabul | 03/09/2023 | There is no recharging system for underground water, no proper water management and harvesting system at community level<br><br>Afghanistan is one of the most vulnerable countries in view of climate change and natural disaster, digging of deep wells and extracting of water for irrigation purpose is a big concern for the future water table is going down day by day in such practice most of the people will be faced with shortage of drinking water much population will be displaced from their own communities.<br><br>If irrigation channels are not properly managed, conflicts will be created, the irrigation and water supply project must be implemented by an experienced people, demographic data must be collected and also conflict analysis must be done in advance<br>Irrigation. The land is shared between too many people. A positive practice would be to have different people from different communities as laborers. |

## Annex 9: Mitigation measures for groundwater depletion

Groundwater is a critically valuable resource for water supply around the world. But the development of groundwater resources has consequences -- its stock or reserves (i.e., the volume in storage in the aquifer) can be reduced and groundwater withdrawal can deplete surface-water flows and resources and have other environmental impacts. Water depletion might, for example, include streamflow depletion, drying of springs or wetlands, loss of vegetation, and/or water-level declines in wells.

The concept of safe yield of a groundwater system is often used by water managers to place limits on the total number of wells and/or total pumping from a given aquifer. This need arises because groundwater is a common pool resource in which extraordinarily high usage by one or more parties may be highly beneficial to those parties (and their self interests) but harmful to the long-term viability of the resource (through excessive depletion) and to everyone else's continued future use of the common resource. Overdevelopment of an aquifer is a classic example of "The Tragedy of the Commons" (Hardin, 1968).

Freeze and Cherry (1979) state, "Todd (1959) defines the safe yield of a groundwater basin as the amount of water that can be withdrawn from it annually without producing an undesired result. Any withdrawal in excess of safe yield is an overdraft."

The groundwater depletion is already a big problem in Afghanistan and therefore, we hope the project teams should establish a mechanism to prevent and if not minimize to the extent possible such an imbalance use of groundwater.

Therefore, the following would be needed to include in the ToR:

1. Utilizing services of a competent expert of groundwater resources assessment and management to establish a framework having, guidelines, screening checklist and mechanism to assess **Irrigation Subproject sites/areas** and find critical areas in groundwater depletion and propose relevant measures and also apply the following:

2. Find the safe yield for the area and based on that identify and based on that establish a mechanism to determine the number of potential wells that are going to be opened in the relevant community and the field, their locations, depths, other characteristics and the amount of water to be used from a well for irrigation purposes.

3. In some sensitive/protected areas where protection of surface water (wetlands, rivers. etc) and groundwater in terms of quality and quantity is of utmost importance. The current status of surface and groundwater in these areas should be determined if it cannot do so so should not disturb it.

4. If possible establish programs for monitoring nitrates in freshwaters and groundwaters

5. A Nitrate Monitoring Program and Network for the monitoring of the nitrate level in groundwaters and freshwaters have to be established, to protect water Against Pollution Caused By Nitrates from Agricultural Sources.

In a prescribed area all new irrigation wells are licensed, and a license is only issued if certain conditions are met. Such as.

That a well cannot be drilled within a certain distance of an existing well, unless an aquifer test proves that pumping from the well will not interfere with the existing well.

Or that no new licenses are to be issued in a certain area and only the transfer of a license can occur. Monitoring still plays an important role in a prescribed area as it may highlight areas of

To minimize groundwater depletion the following measures are considered for Component 1 (drinking water supply systems):

Water supply pipe scheme with metering system to prevent individual private excessive usages. water reservoir, water level control (floating) system with sensors

Soak pits for stand taps inside houses and communal stand taps to recharge groundwater.

The sensitivity of the issue will be explained to the specific community during the awareness campaigns.

Implement water conservation practices: Encourage efficient water use by promoting practices such as fixing leaks, using water-saving appliances, and incorporating drought-resistant landscaping.

Monitor and manage groundwater extraction: Regularly monitor groundwater levels and ensure that extraction rates do not exceed the recharge rate of the aquifer. Implement regulations and permits to control groundwater pumping.

Promote sustainable agricultural practices: Encourage farmers to adopt water-efficient irrigation techniques, crop rotation, and soil conservation practices to reduce water demand and minimize the impact on groundwater levels.

Implement rainwater harvesting: Collect and store rainwater for non-potable uses such as irrigation, landscaping, and flushing toilets. This can help reduce reliance on groundwater for these purposes.

Protect recharge areas: Preserve and protect natural recharge areas such as wetlands, rivers, and forests to ensure that groundwater sources are replenished naturally.

Educate the public: Raise awareness about the importance of groundwater conservation and the potential consequences of over-extraction. Encourage individuals to take action to reduce their water consumption.

Collaborate with stakeholders: Work with local communities, businesses, and government agencies to develop comprehensive water management plans that address the needs of all stakeholders while protecting groundwater resources.