

Environmental and Social Management Plan (ESMP)

For

Northeast Villages Water Distribution System in Jenin area (Deir Abu Daief, Beit Qad (Northern and Southern), Arabunah and Jalboun)

Subcomponent 1.2 under

Water Security and Resilience Program (WSRP-SoP1) P176025

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List of Acronyms

СоС	Code of Conduct
ESHS	Environment, Social, Health and Safety
EHSGs	Environment, Health and Safety Guidelines
EQA	Environmental Quality Authority
ERP	Emergency Response Plan
E&S	Environmental and Social
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
GBV	Gender Based Violence
GHG	Greenhouse Gas
GM	Grievance Mechanism
GRS	Grievance Redress Service
JWC	Joint Water Committee
LGU	Local Governmental Unit
LMP	Labor Management Plan
MoA	Ministry of Agriculture
МоН	Ministry of Health
MoL	Ministry of Labor
MoLG	Ministry of Local Government
MoPWH	Ministry of Public Works and Housing
MoTA	Ministry of Tourism and Antiquities
MSDS	Material Safety Data Sheets
NWC	National Water Company
OHS	Occupational Health and Safety
OIP	Other Interested Parties
PAPs	Project Affected People/Parties
PCBS	Palestinian Central Bureau of Statistics
PCU	Project Coordination Unit
PEAP	Palestinian Environmental Assessment Policy
PEL	Palestinian Environment Law
РР	Procurement Plan
PPE	Personal Protective Equipment

PPSD	Project Procurement Strategy for Development
PSC	Project Steering Committee
PSI	Palestinian Standards Institution
PWA	Palestinian Water Authority
RF	Resettlement Framework
RoW	Right of Way
RWUs	Regional Water Utilities
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SoP	Series of Projects
ТМР	Traffic Management Plan
ToR	Terms of Reference
WBWD	West Bank Water Department
WDS	Water Distribution System
WHO	World Health Organization
WMP	Waste Management Plan
WSRC	Water Sector Regulatory Council
WSRP	Water Security and Resilience Program

Executive summary

I. Project Background

The subproject "Northeast Villages Water Distribution System in Jenin Area" is implemented under sub-component 1.2 of "The Water Security and Resilience Program (WSRP)", the first project in a series of projects (SOP-1). The WSRP aims to advance an ambitious agenda for climate-smart water and sanitation infrastructure investments and reforms, building upon the World Bank's long-standing support to the sector. The Program's implementation is scheduled for the fiscal years 2023 to 2028.

The subproject "Northeast Villages Water Distribution System in Jenin Area" aims to construct new water distribution systems in specific rural locations of Jenin Governorate. The targeted areas are Deir Abu Daief, Beit Qad (Northern and Southern), Arabuna and Jalboun villages, where no existing water distribution system is currently in place. This Environmental and Social Management Plan (ESMP) will specifically focus on the construction of the Water Distribution System (WDS) in Deir Abu Daief, Beit Qad, Arabuna and Jalboun villages, addressing the associated environmental and social aspects to ensure a successful implementation with minimal impact on the community and environment.

The primary water source for the Deir Abu Daief, Beit Qad (Northern and Southern), Jalboun, Arabuna WDS is from Mekorot, the national water company of Israel, through the West Bank Water Department (WBWD). At present, water is supplied through a filling point located at the existing connection point chambers managed by the West Bank Water Department¹ (WBWD).

II. Project Description

The Environmental and Social Management Plan (ESMP) is based on a comprehensive technical study that includes a detailed design. The WDS for Deir Abu Daief includes the connection to the WBWD chamber, the supply and installation of 1,850 meter of transmission pipeline, and 87,305 meter of distribution Steel Pipelines with various diameters. The system includes a balancing water tank with a capacity of 1000m³, two multistage vertical inline booster pumps, a booster room, and an electrical panel and distribution network.

The WDS for the other three villages comprises several components, including the connection to the WBWD chamber, the supply and installation of 2.916 meter of transmission pipeline, and 86,056 meter of distribution Steel Pipelines with various diameters. Additionally, the system includes a two elevated water tanks in Beit Qad and Arabuna with a capacity of 500m³ for each one, a multistage vertical inline booster pump, a booster room, and an electrical panel and distribution network.

Detail information on the layouts and specifics of the WDS are provided in section 1.3.

Following construction, the WDS will operate year-round, providing a continuous 24-hour water supply to the served area. The West Bank Water Department (WBWD), a division within the Palestinian Water Authority (PWA), will serve as the water provider for the system. Concurrently, Marj Bin Amir Municipality comprising a cluster of ten LGUs including Deir Abu Daief, Beit Qad South and North, Arabuna, and Jalboun will take responsibility for operating the newly established WDS (this subproject) and ensuring their ongoing maintenance as necessary This maintenance work encompasses regular upkeep of mechanical and electrical installations, as well as addressing any emergency situations that may arise (corrective maintenance).

¹ The WBWD, which according to the Water Law 2014 will eventually transition into the "Palestine National Water Company," is tasked with distributing the bulk water supply to the service providers, including the local authorities such as Deir Abu Daief, Beit Qad, Arabuna, and Jalboun village councils.

III. Scope of the Environmental and Social Management Plan (ESMP)

The construction and operation of the Beit Qad, Arabuna and Jalboun WDS may pose adverse effects on the environment and the local community. This ESMP assesses the specific environmental and social risks and impacts associated with both the construction and operation phases of this sub-project as described in section 6.3. Moreover, it lays out comprehensive mitigation measures and plans that the contractor must adhere to in order to effectively reduce or offset any remaining environmental and social risks and impacts.

This ESMP is prepared in line with the Palestinian Environmental Assessment Policy, national legislation, the World Bank Environmental and Social Framework (ESF), the Environmental and Social Management Framework (ESMF) which was prepared for the WSRP project in December 2022², various EHS guidelines, including those related to environmental protection, occupational health and safety (OHS), community health and safety, construction and demolition, water and sanitation, as well as the World Health Organization Guidelines on drinking water quality.

IV. ESMP Methodology

Data collection: Based on the screening done as part of the WSRP Environmental and Social Management Framework (ESMF) that was prepared in December 2022 and disclosed on the PWA website, an Environmental and Social Impact Assessment (ESIA) was not necessary for this subproject; instead, an Environmental and Social Management Plan (ESMP) was prepared. The ESMP is based on a comprehensive integration of primary data collection, site visits, field surveys, stakeholder meetings, and a review of existing studies, reports, and maps to ensure accuracy and inclusiveness.

Assessing the key environmental and social impacts: The methodology for assessing and evaluating E&S risks significance is based on several factors. These factors include determining the risk significance based on the probability of impact occurrence, the duration of impact, the area's extension affected by potential impact, and the intensity of the impact. The risk rating of the impacts is then categorized as low, moderate, substantial, high, or no impacts associated, based on the assessment's findings.

V. Institutional and Implementation Arrangements

PWA will be the Implementing Agency for the WSRP-1 project including this subproject. PWA will create a dedicated Project Coordination Unit (PCU) hosted within PWA, which will be supported by field Engineers in Jenin. The PCU will be staffed with experts and specialists on a competitive basis to support management of the E&S risks along with ESHS risks including one Environmental Specialist, one Social Specialist, and one field Engineer.

The PCU will be responsible for the implementation of environmental and social requirements and coordination within the stakeholders to ensure that Project Development Objectives are achieved. The PCU will maintain the core team and supporting staff as needed during the project period.

The PWA will engage an engineering firm as the construction supervision engineer to oversee construction activities, ESMP implementation, and generating monthly reports.

Project Steering Committee (PSC). The PSC will be **chaired by the Program Director** which will facilitate higher-level support for the monitoring and follow-up on the project and allow to advance discussions on the subsequent projects within the SOP. The PSC will include representatives of the Ministry of Finance, Ministry of Agriculture, Environmental Quality Authority, MoLG, and local district-

² Environmental and Social Management Framework (ESMF) .pdf (pwa.ps)

level stakeholders including WBWD, WSRC, the RWUs which will be established during the project implementation in accordance with the 2014 Water Law, and representatives of NGOs and academia. This committee will serve as a coordination platform for the multifaceted interventions.

During the operational phase, Marj Bin Amir Municipality will be in charge of operating and maintaining the new water networks. However, this arrangement is temporary, as a Regional Water Utility will be established during the project implementation. This utility will take over the responsibility for the operation and maintenance, as well as ensuring compliance with the Environmental and Social (E&S) requirements.

VI. Relevant Laws, Regulations and Policies

The ESMP report is prepared in line with (i) the national environmental and social legislative laws, regulations, and guidelines, (ii) the World Bank ESF, (iii) the World Bank Group Environmental Health and Safety Guidelines (EHSGs)³ including those related to environmental protection, OHS, community health and safety, construction and demolition, water and sanitation, (iv) the World Bank Good Practice Notes: Addressing sexual exploitation and abuse and sexual harassment (SEA/SH) in investment; Projects financing involving in major civil works, 2020; Bank Guidance Note on Addressing Gender based violence in Investment Project Financing involving major civil works, 2018; Gender, 2019; Road safety, 2019; and Managing the risks of adverse impacts on communities from temporary project induced labor influx, 2016, (iii) World Health Organization (WHO) Guidelines on drinking water quality. The World Bank's standards which are applicable to the subproject are ESS1, ESS2, ESS3, ESS4, ESS8, and ESS10. ESS5, ESS6, ESS7, and ESS9 are not relevant to the subproject because they pertain to aspects such as land acquisition, biodiversity conservation, Indigenous Peoples/Sub-Saharan Historically Underserved Traditional Local Communities, and financial intermediaries, which do not have any direct or significant impact on the specific nature and scope of this subproject. The water distribution pipelines will be installed within approved road right-of-ways, including those adjacent to agricultural lands, without adverse impacts. The contractor will promptly complete all activities to avoid inconvenience to land users/owners, restore construction locations to their original condition, provide timely information on scheduled activities, and secure necessary landowner agreements for site borrowing, ensuring restoration after demobilization. Rationale for applicability of ESSs is provided in Section 2, Table 2.1

VII. ESMP Implementations Arrangement

The key actors responsible for implementing the ESMP are:

PWA/PCU

The PWA, through the PCU, will oversee the compliance of the parties that will implement the project, which includes the supervision Engineer, Contractors, Subcontractors, and suppliers of construction materials, with the setup of environmental and social measures and instruments.

Construction Supervision Consultant

The PCU will engage an international engineering firm for construction Supervision Engineer to supervise the implementation of the sub-component.

Contractor

The Contractor will implement the ESMP/C-ESMP, prepare monthly progress reports and implement instructions issued by the Supervision Engineer. The Contractor will engage qualified E&S and OHS

³The World Bank Group Environment, Health and Safety (EHS) guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP).

Officers on full time basis to interpret the C-ESMP and advice on the implementation of the same, as well to the Counterpart Personnel for the Supervision Engineer.

VIII. Environmental and Social Risks and Impacts and Mitigation Measures

Positive Environmental and Social Impacts of Project

The project is expected to have several positive impacts (beneficial) as follows:

Construction Phase: The project will provide employment opportunities during the construction phase for the workers, workers in the support services (supply of the construction materials and equipment/supply chain), Palestinian companies and suppliers of the construction material and equipment.

Water Supply: (a) Ensure equitable access of the population to climate-resilient, safely managed water supply, **(b)** Improve the reliability and quality of water supply services in Jenin NE villages, and **(c)** Increased number of households benefiting from increased hours of water supply.

Climate Co-Benefits: The installation of new WDSs in the project area is expected to replace the use of diesel-fueled water-tanker trucks, reducing GHG emissions.

Community social behavior, health, and economy: (i) behavior change related to the conservation of water, payment for public services, tariff revision, and acceptability of water prices through planned consultations and stakeholders engagement activities, awareness raising activities and the project's GM. (ii) Improve the health situation of the citizens of the served communities by providing them with safe and disinfected (chlorinated) drinking water that will be supplied by the Israeli water company (Mekorot) and eliminating their dependence on water tankers of unknown quality. (iii)Encourage investors to implement new industrial and commercial facilities in the served area, thus increasing employment opportunities.

Strengthen sustainability: Sustainability is a core principle that has been integrated into the design of this subcomponent at several levels, including:

- **Technical sustainability:** The project will improve the technical design which will support the operational sustainability of the institution and the water infrastructure in the post-project phase.
- **Environmental sustainability:** including (i) provision of safe drinking water supply, and (ii) overall improvement of water supply systems due to efficiency gains, and (iii) lower the reliance on diesel-operated tanker trucks reducing GHG emissions.
- **Social sustainability:** through (i) the engagement of all stakeholders in project preparation and implementation, (ii) implement public awareness and behavior change campaigns, and (iii) the development of stronger accountability measures.

Negative Environmental and Social Impacts and Mitigation Measures

Most of the impacts will only occur at active construction sites during the construction stage. The subproject underwent screening as required in the WSRP project ESMF, and the ESMP was developed in accordance with the screening process specified in the ESMF. The environmental and social risk is rated as "substantial" as some of the sub-project activities presents physical hazards to workers and the local community.

The key environmental risks are related to debris generation and disposal, noise emissions, increased vibration from construction machinery movement, potential water pollution during storage, transmission, and/or distribution, and increased wastewater generation.

The project is associated with several key social risks and impacts primarily that are related to OHS and poor working conditions. The OHS risks are associated with the excavation and electro-mechanical work. The working conditions include the unregulated use of a workforce without contracts, insurances, and a Grievance Mechanism (GM). Lack of formal employment procedures, unequal and unfair salaries, discrimination (Considering the feedback gathered during consultations and the current water vendor prices, which exceed the anticipated rate of water services under this sub-project, there is a minimal risk of discriminatory access to services arising from affordability concerns.), and limited opportunities also contribute to the social risks. Additionally, there are concerns related to child labor, Gender-Based Violence (GBV), Sexual Exploitation and Abuse (SEA), and community health and safety risks.

Furthermore, the project has social impacts related to water tariffs, the affordability of water prices, and the willingness of local communities to pay. Additionally, community health and safety risks, such as road safety, and concerns regarding private land use and construction related temporary access restrictions to agricultural lands, residential areas, businesses, and other properties are also assessed and found to be of low risk. The system will be constructed within the existing right of way of roads, eliminating the need for any private land acquisition. Furthermore, any temporary land usage, such as for machinery and material storage, will be managed through rental agreements between the contractor and landowners, when necessary, and these arrangements will be explicitly outlined in the bidding documents. Nevertheless, for management of traffic, temporary access and safety measures shall be implemented to mitigate access restrictions. A specific traffic plan shall be prepared by the contractor and implemented to mitigate traffic disruptions; this includes proper signage and safety measures, and detour roads which are available and could be used by cars and the residents during construction activities.

The negative environmental and social impacts of the project, along with the corresponding mitigation measures, are detailed in the Environmental and Social Management and Monitoring Plan (ESMP) in Table 8.1.

The total estimated cost of ESMP implementation is **60,900 USD** (refer to section 7.1 ESMP budget), in addition to other cost included in the relevant BOQ items.

IX. Contractual commitment and management of contractors

PWA will incorporate standardized environmental and social clauses in tender documentation, so that potential bidders are aware of environmental and social performance requirements expected from them. In this case, the bidders will be able to reflect that in their bids, and are required to implement the clauses for the duration of the contract.

For an effective integration of environmental and social standards into the project implementation the Contractor will need to adopt this ESMP and prepare a comprehensive Construction Environment and Social Management Plan (C-ESMP) that will provide the key reference point for compliance. The Supervision Engineer will also adopt the C-ESMP.

X. Monitoring and Reporting

The contractors shall prepare and submit to the Supervision Engineer a monthly report on implementing the environmental and social mitigation measures. The Report shall cover monitoring the environmental and social issues, OHS compliance, OHS incidents and accidents, training conducted, and any other significant activities carried out during the reporting period.

The PWA shall prepare and submit to the World Bank regular monitoring reports on the environmental, social, health, and safety (ESHS) performance of the Project.

XI. Stakeholder Engagement Plan implementation

PWA has prepared a Stakeholder Engagement Plan prepared for the WSRP⁴ proportional to the nature and scale of the project impacts and risks. The Environmental and Social Officers at PCU shall be engaged by the project to liaise with the local stakeholders and project affected community. Main stakeholders have been identified in the SEP and the requirement for their engagement throughout the project cycle has been outlined. The ESMP further details the enhanced requirement to engage with the project affected people during preparation and implementation of ESMP.

The sub-project stakeholders were identified in the WSRP Stakeholders Engagement Plan (SEP) that was prepared in December 2022 and disclosed to the PWA website on the following link: http://www.pwa.ps/userfiles/server/reports/WSRP_SEP.pdf. Multiple consultations were held with the targeted communities of Deir Abu Daief, Beit Qad, Arabuna, and Jalboun including representatives of vulnerable categories on March 15, 2023, March 26, 2023, and with Ministries and Government Agencies (Environment Quality Authority (EQA), Ministry of Local Government (MoLG), Ministry of Tourism and Antiquities (MoTA), Ministry of Transport, (MoT), Ministry of Labor (MoL), Ministry of Agriculture (MoA), Ministry of Health (MoH), Ministry of Public Works and Housing (MoPWH))on April 3, 2023, April 4, 2023, April 5, 2023, April 6, 2023, April 10, 2023, April 17, 2023, April 9, 2023.

The project's activities, disclosure channels and Grievance Mechanism were explained, and feedback collected from the main parties and included within the sub-project risk assessment and specific mitigation measures.

Main concerns were expressed by the owners/workers of commercial enterprises, and the villages Council for prompt completion of works and a restoration of the site to its original conditions and for timely information of scheduled activities. Special attention was requested to implement a wastewater network project to consider the increase in wastewater production rates resulted by the increase in the supply of domestic water. Concerns was also raised regarding the prices of the drinking water per m³ and residents' contribution fees.

Specific mitigation measures are included in the ESMP matrix and will be implemented by the contractor and PWA to address the main stakeholder concerns.

The project specific Grievance Mechanism has been detailed in the Stakeholder Engagement Plan (SEP) prepared for the project.

XII. Grievance Mechanism (GM)

The Grievance Mechanism (GM) is established at PWA and remains effective throughout the project, spanning from the initiation of construction activities until the completion and beyond, during the defect liability period. The GM procedures encompass specific codes and protocols designed to handle anonymous grievances and those related to gender-based violence (GBV), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH). To accommodate anonymity, the system includes a dedicated process for reporting complaints anonymously, acknowledging that some individuals may opt to remain unidentified when submitting their grievances.

⁴ World Bank Document

The workers' GM has been detailed out on the project Labor Management Procedures (LMP). The workers' GM will be established to address the concerns of workers and staff involved in the project implementation. The PWA will implement the GM provisions for their workers and staff. Moreover, Contractors are required to develop their labor Management Plan before commencing the implementation phase, which must include a comprehensive description of the grievance mechanism for their workforce.

1. Introduction

1.1 Background

The Water Security and Resilience Project (WSRP-1) is the first phase of a Series of Projects (SoP) in the proposed Water Security and Resilience (WSRP) Program.

Box 1: The components of WSRP.
Note: for further details please consult the project ESMF on the following link:
Environmental and Social Management Framework (ESMF) .pdf (pwa.ps)
The Project consists of four components:
Component 1 - Improvement of Water and Wastewater Infrastructure and Service Management
Sub-Component 1.1 – Bulk Water Supply System in Jenin
Sub-component 1.2 – Northeast Villages Water Distribution System in Jenin area
Sub-Component 1.3 – Hebron Wastewater Operation and maintenance
Component 2 - Improve performance of Water Sector Service Providers
Subcomponent 2.1: Strategic planning and sector reform
Subcomponent 2.2: Improve Financial and Operational Performance of the Service Providers
Subcomponent 2.3: Improve Social Accountability of Service Providers
Component 3 - Project Management and Monitoring
Component 4 - Contingent Emergency Response Component (CERC)

The Northeast Villages Water Distribution System in Jenin area was selected for the first phase of investment under subcomponent 1.2 of the WSRP-SoP1. The Northeast Villages Water Distribution System in Jenin Area Project targets the construction of new WDSs in Deir Abu Daief, Beit Qad (Northern and Southern), Jalboun, and Arabuna. Deir Abu Daief, Beit Qad and Arabuna population do not have water supply systems, while in Jalboun, only 60% of the population are served by a newly

established WDS. Currently, water is provided through existing filling point located at the main existing Chamber of the WBWD, the main source of water is from purchased water from Mekorot.

This document will present the Environmental and Social Management Plan (ESMP) for Deir Abu Daief, Beit Qad (Northern and Southern), Arabuna and Jalboun WDS Project.

1.2 Project Location and Area Features

North East villages (Deir Abu Daief, Beit Qad, Arabuna and Jalboun) WDS project aims to construct a drinking WDS in the aforementioned villages, these villages are briefly described below:

• Deir Abu Daief Village:

Deir Abu Daief WDS project aims to construct a drinking WDS in Deir Abu Daief village. Deir Abu Daief is a Palestinian village situated in the northern West Bank's Jenin Governorate, approximately 6 km east of the city of Jenin. As per the Palestinian Central Bureau of Statistics (PCBS) ⁵, the village's population was forecasted to be 7,895 inhabitants as of mid-year 2023.

Deir Abu Daief has five schools namely: Deir Abu Daief Secondary School for Boys, Deir Abu Daief Secondary School for Girls, and Deir Abu Daief Basic School for Boys, and Deir Abu Daief Elementary School for Girls, and Deir Abu Daief Elementary Mixed School.

The village also has a health clinic managed by the Palestinian Ministry of Health (MoH), providing essential medical care, vaccination services, and basic healthcare facilities to its citizens.

Deir Abu Daief has a Village Council, and the community benefits from several civil society institutions, including the Cooperative Agricultural Association, Women's Council, Charity Association, and Sports Club. Additionally, the village has four mosques.

• Beit Qad Village.

Beit Qad is a Palestinian village situated in the northern West Bank's Jenin Governorate, approximately 5 km east of the city of Jenin. As per the Palestinian Central Bureau of Statistics (PCBS)⁶, the forecasted village's population was reported to be 2,158 inhabitants as of mid-year 2023.

Beit Qad has two schools namely: Beit Qad Secondary School for Boys, Beit Qad Secondary School for Girls.

The village has a health clinic that served the surrounding communities and is managed by the Palestinian Ministry of Health (MoH), providing essential medical care, vaccination services, and basic healthcare facilities to its citizens, and also has an emergency health center (Al-Hussain).

There are two village councils for Beit Qad, Northern Beit Qad Village Council and Southern Beit Qad Village Council, both are located on Marj Bin Amer Municipality building, the Municipality building also includes a Post office, Women's Council, and charity associations.

The village has a civil defense center and a police station that serves 10 villages affiliated to Marj Bin Amer municipality. Beit Qad also has a rehabilitation center managed by the Ministry of Interior

⁵ Palestinian Central Bureau of Statistics (2021 PCBS)

⁶ Palestinian Central Bureau of Statistics (2021 PCBS)

(MOI) which serves all the Northern Governorates of West Bank. Additionally, the village has four mosques.

• Arabuna Village

Arabuna is a Palestinian village situated in the northern West Bank's Jenin Governorate, approximately 11 km northeast of the city of Jenin. As per the PCBS⁷, the forecasted village's population was reported to be 1,126 inhabitants as of mid-year 2023.

Arabuna has two schools, namely Arabuna Secondary School for Boys, Arabuna Secondary School for Girls, a village council, and one mosque.

Arabuna has a Village Council. The community benefits from several civil society institutions, including the Cooperative Agricultural Association, Women's Council, Charity Association, and Sports Club. Additionally, the village has two mosques.

• Jalboun Village

Jalboun is a Palestinian village situated in the northern West Bank's Jenin Governorate, approximately 12 km east of the city of Jenin. As per the PCBS⁸, the forecasted village's population was reported to be 3,090 inhabitants as of mid-year 2023.

Jalboun has three schools, namely: Jalboun Secondary School for Boys, Jalboun Secondary School for Girls, and Jalboun Elementary Mixed School. The village also has a health clinic managed by the MoH, providing essential medical care, vaccination services, and basic healthcare facilities to its citizens.

1.3 Project Description

Project Design and Activities:

• Deir Abu Daief WDS

The scope of work involves supplying and installing 1,850 meters of transmission pipeline and 87,305 meters of distribution steel pipelines with various diameters. Additionally, the project includes constructing a 1000m³ balancing water tank, installing two multistage vertical inline booster pumps, setting up a booster room, and installing an electrical panel and distribution network.

Table 1.1 summarizes the 2022 water demand for Deir Abu Daief village, as well as the 2047 water demand under the proposed action.

Population		Average Water Consumption (L/c/d)		Average Daily Demand (m3/d)		
2022	2047	2022	2047	2022	2047	
8,100 15,019		120 145		972 2178		
Reference: Final Desian Report for Construction of Water Distribution Systems in North East Jenin villages						

Table 1.1 Existing and Future Water Demand

Deir Abu Daief WDS is depicted in Figure 1.1, and Table 1.2 provides a breakdown of its components and their corresponding quantities.

⁷ Palestinian Central Bureau of Statistics (2021 PCBS)

⁸ Palestinian Central Bureau of Statistics (2021 PCBS)



Figure 1.1: Layout of Deir Abu Daief WDS

No.	Description	Quantities (m)
1	Supply and installation of Transmission Pipeline DN 150mm Starting from the	1848
	Existing WBWD Chamber (Connection Point) to the Proposed Inlet of the	
	Proposed Ground Reservoir.	
2	Supply and installation of Distribution steel Pipeline DN150mm	2408
3	Supply and installation of Distribution steel Pipeline DN100mm	1775
4	Supply and installation of Distribution steel Pipeline DN80mm	13865
5	Supply and installation of Distribution galvanized steel Pipeline DN50mm	28925
6	Supply and installation of Distribution galvanized steel Pipeline DN25mm	28332
7	Supply and installation of Distribution galvanized steel Pipeline DN20mm	12000
8	Supply and installation of Electromagnetic Water Meter to be Installed at WBWD	1
	Connection Point-Beit Qad Water Meter Chamber	
9	Supply and installation of Mechanical Water Meter to be Installed between Beit	1
	Qad and Deir Abu Daief	
10	Supply and installation of Prepaid water meter	1600
11	Construction of Ground Water Tank 1000 m ³	1
12	Supply and installation of Booster Pump Station (Q=60 m3/h), T.D.H =115m meter	1
	with readymade Balancing tank capacity of 100 C.M, Booster will be installed on	
	the transmission pipeline to boost the water to the ground reservoir 1000m3.	

Figures 1.2 and 1.3 illustrate the layouts of the Deir Abu Daief Pump Station and the on-ground water reservoir.



Figure 1.2: Deir Abu Daief Pumping Station layout



Figure 1.3: Deir Abu Daief (1000m3) Groundwater Tank layout

The Project encompasses a range of activities and construction works outlined in Table 1.3.

	Excavation works for trenches and valves chambers					
	Transporting and disposing of excess excavated materials					
	Spreading embedding materials					
1) Transmission and	 Formwork, steel rebar, and casting concrete for chambers 					
Distribution Pinelines	 Laying out and installation pipes, valves and fittings 					
Distribution ripennes	 Pipes and valves testing, cleaning, disinfecting, and flushing 					
	Backfilling works for trenches and chambers					
	Trenches and chambers backfilling					
	Roadway restoration and reinstatement					
	Earthworks, including excavation and backfilling works to the needed level					
	Transporting and disposing of excess excavated materials					
	Formwork and steel rebar					
	Casting concrete					
	Epoxy external painting and internal insulation					
2) Water Tanks	Pipework and valves					
	Electrical work (lighting, instrumentation, and lightning)					
	Tank testing and disinfecting					
	 Mechanical work for water tank and pipe yard 					
	Electrical work, instrumentation, and lightning					
	Site grading and landscaping					
3) Booster Pumping	 Earthworks, including excavation and backfilling works to the needed level 					
Stations	Transporting and disposing of excess excavated materials					
	 Formwork and steel rebar for service buildings and BPS shed 					
	Casting concrete					
	Mechanical work: installing booster pumps, pipes, valves, and fittings					
	Supply and installing an electricity supply system					
	Electrical work for power, monitoring, and control systems					
	 Site grading and landscaping 					

Table 1.3: Construction Activities of Deir Abu Daief WDS

Generally, the alignments of the pipelines will be constructed in the shoulders of the asphalted roads, road reserve, footpaths or gravel/base coarse roads. In some cases, the alignments will have to go through asphalted roads, but their lengths have been kept to a minimum.

Following construction, the transmission pipelines and other facilities will operate year-round, providing a continuous 24-hour water supply to the served area. The West Bank Water Department (WBWD) will serve as the water provider for the system. Concurrently, Marj Bin Amir Municipality will take responsibility for operating the newly established facilities and ensuring their ongoing maintenance as required. This maintenance work encompasses regular upkeep of mechanical and electrical installations, as well as addressing any emergency situations that may arise (corrective maintenance).

• Beit Qad (Northern and Southern) WDS

Beit Qad's WDS is a comprehensive network designed to provide the village with a reliable and efficient water supply. The main water supply for Beit Qad WDS will be the West Bank Water Department (WBWD) chamber connection point. Water is then pumped into an elevated water tank with a capacity of 500m³, ensuring a stable water supply for the community. The water network extends throughout the village, reaching households, businesses, and community facilities.

To optimize the system's performance and meet required standards, a hydraulic modelling for the WDS has been carried out starting from intake junction of the main transmission pipeline runs from WBWD chamber, through the pumping station, balancing water tank ending with connections pipes.

The scope of work involves supplying and installing 2,916 meters of transmission pipeline and 39,186 meters of distribution steel pipelines with various diameters. Additionally, the project includes constructing a 500³ elevated water tank, installing two multistage vertical inline booster pumps, setting up a booster room, and installing an electrical panel and distribution network.

Table 1.4 summarizes the 2022 water demand for Beit Qad (Northern and Southern) village, as well as the 2047 water demand under the proposed action.

Population		Average Water Consumption (L/c/d)		Average Daily Demand (m3/d)		
2022	2047	2022	2047	2022	2047	
2,176	4,035	120	145	260	585	
Reference: Final Design Report for Construction of Water Distribution Systems in North East Jenin villages,						
prepared on Nov. 2022 by Water Environment and Energy Consulting WeeCon.						

Table 1.4 Existing and	d Future V	Water	Demand	for	Beit	Oad	Village
	i acare	a course	Demana		DCIC	quu	111080

The WDS is illustrated in Figure 1.4, and Table 1.5 provides a breakdown of its components and their corresponding quantities.



Figure 1.4: Layout of Beit Qad WDS Table 1.5: Summary of Beit Qad WDS Works (estimated quantities)

No.	Description	Quantities (m)
1	Supply and installation of Transmission Steel Pipeline DN 100mm Starting from	2916
	the Existing WBWD Chamber (Connection Point) to the Proposed Inlet of the	
	Proposed Elevated Reservoir	
2	Supply and installation of Distribution steel Pipeline DN150mm	2650
3	Supply and installation of Distribution steel Pipeline DN80mm	6100
4	Supply and installation of Distribution galvanized steel Pipeline DN50mm	14026
5	Supply and installation of Distribution galvanized steel Pipeline DN25mm	10410
6	Supply and installation of Distribution galvanized steel Pipeline DN20mm	6000
7	Supply and installation of Electromagnetic Water Meter to be Installed at WBWD	1
	Connection Point-Beit Qad Water Meter Chamber	
8	Supply and installation of Mechanical Water Meter to be Installed between Beit	1
	Qad and Deir Abu Daief	
9	Supply and installation of Prepaid water meter	640
10	Construction of Elevated Water Tank 500 C.M	1
11	Supply and installation of Booster Pump Station (Q=18 m3/h), T.D.H =145 meter	1
	with readymade Balancing tank capacity of 50 C.M, Booster will be installed on	
	the transmission pipeline to boost the water to the elevated reservoir.	

Figures 1.5 and 1.6 illustrate the layouts of the Beit Qad pump station and the elevated water reservoir.





Figure 1.5: Beit Qad Booster Pump Station layout





Figure 1.6: Beit Qad Elevated Water Tank

The Project encompasses a range of activities and construction works outlined in Table 1.6.

Table 1.6: Construction Activities of Beit Qad WDS

	 Excavation works for trenches and valves chambers 				
	Transporting and disposing of excess excavated materials				
	Spreading embedding materials				
Transmission and Distribution	 Formwork, steel rebar, and casting concrete for chambers 				
	 Laying out and installation pipes, valves and fittings 				
i ipelines	 Pipes and valves testing, cleaning, disinfecting, and flushing 				
	 Backfilling works for trenches and chambers 				
	Trenches and chambers backfilling				
	 Roadway restoration and reinstatement 				
	Earthworks, including excavation and backfilling works to the needed level				
	 Transporting and disposing of excess excavated materials 				
	Formwork and steel rebar				
	Casting concrete				
	 Epoxy external painting and internal insulation 				
Elevated Water Tank	Pipework and valves				
	Electrical work (lighting, instrumentation, and lightning)				
	Tank testing and disinfecting				
	 Mechanical work for water tank and pipe yard 				
	Electrical work, instrumentation, and lightning				
	Site grading and landscaping				
Booster Pumping Station	Earthworks, including excavation and backfilling works to the needed level				

Transporting and disposing of excess excavated materials
 Formwork and steel rebar for service buildings and BPS shed
Casting concrete
 Mechanical work: installing booster pumps, pipes, valves, and fittings
 Supply and installing an electricity supply system
 Electrical work for power, monitoring, and control systems
Site grading and landscaping

• Arabuna WDS

Arabuna's WDS is a network designed to provide the village with a reliable and efficient water supply. The main source of water for Arabuna will be the WBWD Chamber connection point, the existing system consists mainly of main existing connection point and existing transmission line.

Connection with WBWD chamber will be done close to the existing manhole located inside Arabuna village sited at elevation of 194m (above mean sea level), with an operating pressure of 12 bar. All connections works will be done after coordination with the WBWD.

Table 1.4 summarizes the 2022 water demand for Arabuna village, as well as the 2047 water demand under the proposed action.

Table 1.7 Existing and Future	Water Demand for Arabuna Village
-------------------------------	----------------------------------

Population		Average Water Consumption (L/c/d)		Average Daily Demand (m3/d)	
2022	2047	2022	2047	2022	2047
1,135	2,102	120	145	136	305
Reference: Final De	esian Report for Co	nstruction of Wate	er Distribution Sv	stems in North East	Jenin villaaes

Arabuna WDS is illustrated in Figure 1.7.



Figure 1.7: Layout of Arabuna WDS

Table 1.8 provides a breakdown of its components and their corresponding quantities

No.	Description	Quantities (m)
1	Supply and installation of Distribution steel Pipeline DN100mm	40
2	Supply and installation of Distribution steel Pipeline DN80mm	260
3	Supply and installation of Distribution galvanized steel Pipeline DN50mm	13200
4	Supply and installation of Distribution galvanized steel Pipeline DN25mm	1500
5	Supply and installation of Distribution galvanized steel Pipeline DN20mm	3500
6	Supply and installation of Prepaid water meter	300
7	Construction of Elevated Water Tank 500 C.M	1

Table 1.8: Summary of Arabuna WDS (estimated quantities)

Figures 1.8 illustrate the layouts of Arabuna's On-ground water reservoir.



Figure 1.8: Arabuna Elevated Reservoir

The Project encompasses a range of activities and construction works outlined in Table 1.9.

	Excavation works for trenches and valves chambers
	Transporting and disposing of excess excavated materials
	Spreading embedding materials
Transmission	Formwork, steel rebar, and casting concrete for chambers
Distribution Pinelines	 Laying out and installation pipes, valves and fittings
Distribution ripennes	 Pipes and valves testing, cleaning, disinfecting, and flushing
	Backfilling works for trenches and chambers
	Trenches and chambers backfilling
	Roadway restoration and reinstatement
	Earthworks, including excavation and backfilling works to the needed level
	Transporting and disposing of excess excavated materials
	Formwork and steel rebar
	Casting concrete
	Epoxy external painting and internal insulation
Elevated Water Tank	Pipework and valves
	 Electrical work (lighting, instrumentation, and lightning)
	Tank testing and disinfecting
	 Mechanical work for water tank and pipe yard
	Electrical work, instrumentation, and lightning
	Site grading and landscaping

Table 1.9: Construction Activities of Arabuna WDS

• Jalboun WDS

Jalboun Village WDS: WBWD Chamber connection point will be the main source of water for Jalboun. The existing system consists of a connection to WBWD chamber, supply and installation of transmission and distribution of Steel Pipeline of various diameters, balancing water tank 100m3, multistage vertical inline booster pumps, booster room with electrical panel.

The WDS for Jalboun has started as part of a previous project that is being currently implemented serving 60% of the population. The remaining parts of the distribution system (40%) shall be executed under this project.

Table 1.10 summarizes the 2022 water demand for Jalbun village, as well as the 2047 water demand under the proposed action.

Population		Average Water Consumption (L/c/d)		Average Daily Demand (m3/d)	
2022	2047	2022	2047	2022	2047
3,117	5,781	120	145	373	838
Reference: Final Desian Report for Construction of Water Distribution Systems in North East Jenin villages					

Table 1.10 Existing and Future Water Demand for Arabuna Village

The Water Distribution System (WDS) is depicted in Figure 1.9, and Table 1.11 provides a breakdown of its components and their corresponding quantities



Figure 1.9: Layout of Jalboun Water Distribution System

No.	Description	Quantities (m)			
1	Supply and installation of Distribution steel Pipeline DN80mm	8220			
2	Supply and installation of Distribution galvanized steel Pipeline DN50mm	10950			
3	Supply and installation of Distribution galvanized steel Pipeline DN25mm	5700			
4	Supply and installation of Distribution galvanized steel Pipeline DN20mm	3500			
5	Supply and installation of Prepaid water meter 850				

Table 1.11: Summary of Jalboun Water Distribution System (estimated quantities)

The Project encompasses a range of activities and construction works outlined in Table 1.12.

Table 1.12: Construction Activities of Arabuna WDS

	•	Excavation works for trenches and valves chambers
		Transporting and disposing of excess excavated materials
		Spreading embedding materials
	•	Formwork, steel rebar, and casting concrete for chambers
Transmission and	٠	Laying out and installation pipes, valves and fittings
Distribution Pipelines	•	Pipes and valves testing, cleaning, disinfecting, and flushing
	•	Backfilling works for trenches and chambers
		Trenches and chambers backfilling
	٠	Roadway restoration and reinstatement

Generally, the alignments of the pipelines will be constructed in the shoulders of the asphalted roads, road reserve, footpaths or gravel/base coarse roads. In some cases, the alignments will have to go through asphalted roads, but their lengths have been kept to a minimum.

Following construction, the transmission pipelines and other facilities will operate year-round, providing a continuous 24-hour water supply to the served area. The West Bank Water Department (WBWD) will serve as the water provider for the system. Concurrently, Marj Bin Amir Municipality will take responsibility for operating the newly established facilities and ensuring their ongoing maintenance as required. This maintenance work encompasses regular upkeep of mechanical and electrical installations, as well as addressing any emergency situations that may arise (corrective maintenance).

1.4 Scope of the Environmental and Social Management Plan (ESMP)

This environmental and social management plan (ESMP) assesses the environmental and social risks and impacts associated with the construction and operation phases of the sub-project. It outlines the necessary mitigation measures and plans that the contractor must implement to minimize or offset any remaining risks and impacts. The ESMP also identifies the specific environmental and social indicators to be measured and monitored, assigning responsibilities to the implementing agency (PWA), Supervision Engineer, and contractor for the implementation, supervision, and compliance monitoring of this ESMP and approved site-specific plans.

2. Applicable Laws, Standards, Conventions, and Guidelines

This environmental and social management plan (ESMP) is prepared in line with the Palestinian Environmental Assessment Policy, national legislation, the World Bank Environmental and Social Framework (ESF), the Environmental and Social Management Framework (ESMF) which was prepared for the WSRP project in December 2022⁹, various EHS guidelines, including those related to environmental protection, occupational health and safety (OHS), community health and safety, construction and demolition, water and sanitation, as well as the World Health Organization Guidelines on drinking water quality. Relevant laws and regulations and the institutional framework are well described in the WSRP's ESMF. Following is the summary of these laws and regulations:

National Environmental and Social Policies, Laws and Regulations

- Palestinian Environment Law (PEL)
- Palestinian Environmental Assessment Policy
- Palestinian Water Law
- Palestinian Guidelines for Drinking Water
- Palestinian Noise Level Guidelines
- Palestinian Ambient Air Quality Standards
- Palestinian Public Health Law
- Palestinian Legal and Policy Framework for Land Acquisition

Institutional framework

- The Palestinian Water Authority (PWA)
- The Water Sector Regulatory Council (WSRC)
- The National Water Company (NWC)

⁹ Environmental and Social Management Framework (ESMF) .pdf (pwa.ps)

• The Regional Water Utilities (RWUs) and Water Users Associations

World Bank Environmental and Social Framework (ESF)

The World Bank Environmental and Social Framework (ESF) represents the World Bank's commitment to sustainable development, through a Bank Policy and a set of ESSs that are designed to support Borrowers' projects. For details of World Bank ESSs can be found in the following link:

(http://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf).

Table 2.1 summarizes the ESS requirements and their relevance to the WSRP-1 components:

World Bank ESS Policy, Standards,	Relevance & Extent of Relevance to the sub-project/project
Directive	······································
ESS-1	ESS1 is relevant.
Assessment and Management of Environmental and Social Risks and Impacts	The project has been screened in the WSRP ESMF. The project undergoes an analysis and assessment of environmental and social risks, identifying direct and indirect impacts for both construction and operation phases. A comprehensive ESMP is prepared, outlining mitigation, monitoring, and institutional measures to eliminate or reduce adverse environmental and social impacts during implementation and operation.
ESS-2	ESS2 is relevant.
Labor-and-Working- Conditions	The project will employ different labor workers during the construction and operation phases. The project will be implemented by Contractors who will employ contracted workers. A separate Labor Management Procedures (LMP) has been prepared for WSRP, clearance by the Bank, and disclosed on the PWA website. The LMP can be found on the following link:
	http://www.pwa.ps/userfiles/server/reports/WSRP-01_LMP_Final%20Cleared.pdf
	Labor Management Procedure as a reference before starting the construction
	phase.
ESS-3	ESS3 is relevant.
Resource-Efficiency- and-Pollution- Prevention-and- Management	The subproject will involve the construction of water distribution systems, and operation and maintenance activities, that would lead to generate wastes, increase use of energy, significant increase use of water, increase in wastewater amounts, that could cause pollution and would require considerable management and prevention measures.
ESS-4	ESS4 is relevant.
Community-Health- and-Safety	The project involves activities that pose certain risks to community health and safety. These activities include the installation of water pipes, booster pumping stations, and the water tank, which may expose the community to potential hazards such as noise, dust, accidents, and traffic hazard.
ESS-5	This standard is not relevant.
Land-Acquisition-	No land acquisition or resettlement is planned for the subproject. All lands for the
Restrictions-on-Land-	booster pumping station and water tanks are owned by the villages councils and Marj
Use-and-Involuntary- Resettlement	Bin Amer Municipality, and the ownership documentation is provided in Annex 1. The water distribution pipelines will be installed the roads right of way, including those

Table 2.1 WB ESS requirements and relevance to the WSRP-1 project

World Bank ESS	
Policy, Standards,	Relevance & Extent of Relevance to the sub-project/project
Directive	running alongside agricultural lands, within approved master plan; no lands will be
	running alongside agricultural lands, within approved master plan; no lands will be adversely affected. The contractor will also ensure that all construction locations are restored to original conditions upon completion of works, all activities are completed promptly so as to remove the risk of any inconvenience to land users/owners, and that information about all scheduled activities is provided in a timely manner. The designated land for the water tank and booster pumping station is sufficient to meet the temporary requirements for the storage of construction materials and machinery. Furthermore, the standard bidding documents will include a requirement for the contractor to furnish a comprehensive list of storage areas during the project's mobilization phase. Alongside this list, the contractor will be requested to provide all necessary landowner agreements (e.g. rental) pertaining to the borrowing of these sites and ensure that the rented area is restored to its original conditions once the contractor shall make necessary arrangements to use or rent lands/strorage yard for construction related activities, e.g for storing machinery, equipment and materials etc. For the pumping station and tank locations, the machinery, equipment, etc. will be parked/stored on the land given to the execution of these facilities. All machinary, material, and equipment shall be demobilized from site after the completion of the works.
ESS-6	This standard is not relevant.
Biodiversity-	The detailed design indicates that water distribution pipelines will be located in pre-
Conservation	developed populated areas with no biodiversity conservation value, and the Project will not affect any ecosystem services. The sites for the booster pumping station and water tank have been assessed for significant habitats, and no impact is expected.
ESS-7 Indigenous-Peoples	This standard is not relevant. There are no identified Indigenous Peoples/Sub-Saharan Historically Underserved Traditional Local Communities in Palestine.
ESS-8	This Standard is relevant.
Cultural-Heritage	No tangible or non-tangible cultural or physical resources have been identified to be impacted. The project subproject will involve extensive excavations and given the historic nature of the country there is always a chance to find tangible cultural heritage. Nevertheless, the MoTA during the consultation sessions clearly confirmed theat the project targeted areas are not classified as Cultural Heritage areas. As a minimum, the chance find approach and Chance Find Procedures (annexed to WSRP ESMF) will be applied, and will be incorporated in all works' contracts.
ESS-9	Not relevant
Financial- Intermediaries	There is no financial intermediary involved.
ESS-10	A separate Stakeholder engagement plan (SEP) has been prepared to address ESS10.
Stakeholder-	Stakeholder engagement activities and information disclosure during the preparation
Engagement-and-	phase of this ESMP and during the future phases will be undertaken according to the
Disclosure	JLF.

WBG Environmental, Health, and Safety Guidelines (EHSGs)

- Environmental, Health, and Safety General Guidelines
- Environmental, Health, and Safety Guidelines for Water and Sanitation Industry

WHO Guidelines:

- Safe Drinking Water Guidelines
- Noise level Guidelines
- Ambient Air Guidelines

Palestinian Guidelines:

- Safe drinking Water Guidelines
- Noise level Guidelines

WB Technical Notes

- 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;
- Gender, 2019;
- Road safety, 2019; and
- Managing the risks of adverse impacts on communities from temporary project induced labor influx, 2016.

3. ESMP Methodology

Data collection: The methodology for data collection in the development of the Environmental and Social Management Plan (ESMP) for this subproject involved a multi-faceted approach to ensure a thorough and inclusive assessment:

Primary Data Collection: This process involved gathering firsthand data directly from the project area. Field teams conducted surveys, interviews, and assessments to collect information on various environmental and social aspects, including biodiversity, land use, community demographics, and socio-economic conditions.

Site Visits: Site visits were conducted to physically inspect the project area. This allowed for a firsthand understanding of the local conditions, potential environmental sensitivities, and the project's relationship with its surroundings.

Field Surveys: Field surveys encompassed systematic data collection in the project area. These surveys could include environmental assessments, ecological studies, and social surveys to gauge community needs and concerns.

Stakeholder Meetings: Engagement with stakeholders such as local communities, government officials, non-governmental organizations, and other relevant parties played a crucial role. These meetings provided valuable insights, allowed for the exchange of information, and ensured that the concerns and perspectives of various stakeholders were considered in the ESMP.

Review of Existing Studies, Reports, and Maps: To complement the primary data, existing studies, reports, and maps were thoroughly reviewed. These documents could include previous environmental assessments, geological surveys, socio-economic studies, and local development plans. This step helped to build on prior knowledge and incorporate relevant findings into the ESMP.

Assessing the key environmental and social impacts: The methodology for assessing and evaluating environmental and social (E&S) risks significance involves a comprehensive analysis that considers multiple factors. These factors are crucial in determining the level of risk associated with various impacts. The methodology includes:

Probability of Impact Occurrence: This factor assesses the likelihood that a particular impact will occur. A higher probability indicates a greater chance of occurrence and thus may elevate the risk rating.

Duration of Impact: Evaluating how long the impact is expected to persist is essential. Longer-lasting impacts are often considered more significant and could lead to a higher risk rating.

Area Affected: The extent of the area affected by a potential impact is a crucial determinant. Larger areas affected may lead to a higher risk rating, especially if the impact spreads over ecologically sensitive or densely populated regions.

Intensity of the Impact: The severity or intensity of the impact is a key consideration. Impacts with a greater potential to cause harm, whether to the environment or local communities, typically result in a higher risk rating.

Based on the assessment of these factors, the risk rating of each impact is categorized into one of the following levels:

No Impacts Associated: This category implies that the impact is negligible and poses no significant risk.

Low Impact: The impact has a minimal probability of occurrence, limited duration, affects a small area, and has low intensity.

Moderate Impact: This rating suggests that the impact, while not severe, has a moderate probability of occurrence, a moderate duration, and affects a moderately sized area with moderate intensity.

Substantial Impact: Impacts falling into this category have a significant probability of occurrence, a longer duration, affect a substantial area, and have notable intensity.

High Impact: High-impact ratings are reserved for impacts with a high probability of occurrence, extended duration, broad area coverage, and severe intensity. These impacts carry the highest level of risk.

4. Project's Baseline Conditions

4.1 Environmental and Social Background

4.1.1 Topography

The topography of Jenin Governorate generally slopes from south to north and from east to west. The topography of the project area is dominated by a series of hills separated from each other by narrow valleys and it was between (120 - 505) m above sea level.

4.1.2 Climate

The project area is highly influenced by its Mediterranean climate, which is characterized by long, hot, dry summers and short, cool, rainy winters. The project area has more moderate temperatures than other places in the West Bank, with a mean annual temperature of 21.5 °C. The maximum mean monthly temperature is 28.4 °C during August whereas the minimum mean monthly temperature is 13.5 °C during January.

The average annual relative humidity in the project area was 66%. The maximum mean monthly relative humidity is 73.4% during December whereas the minimum mean monthly relative humidity is 56.8 during April.

4.1.3 Geology and Soils

The project area is composed of the following soil types and shown on the below map:

- 1. Grumusols: soil formed from source rock of limestone and volcanic tuff which is generally alkaline so that there is no organic activity in it, and it concentrated on the northern part of the village.
- 2. Terra Rossas, Brown Rendzinas and Pale Rendzinas: is a well-drained, reddish, clayey to silty soil with neutral pH conditions and is typical of the Mediterranean region

The project area is composed of the following geological formations:

- Quaternary deposits: Quaternary sediments are mainly derived from adjacent rock formations, and mostly composed of unconsolidated and laminated marl with some siliceous sand.
- Eocene Formation (Jenin formation): This formation is mainly composed of limestone, chalk, marl, marly limestone, and chert.

4.1.4 Surface Water and Groundwater

The project area lies within Al Moqatta' and Al Khodera-Abu Nar catchment areas, which are parts of the thirty-three catchment areas in the West Bank. The Al Moqatta' and Al Khodera-Abu Nar catchments drains to the west, crossing the Israeli border (Green Line) before reaching the Mediterranean Sea. The streams in the catchment are seasonal, running only during the winter rainy season.

The ground water aquifers in Jenin Governorate are the shallow aquifer (Eocene aquifer) and the deep aquifer (Turonian-Upper Cenomanian aquifer).

The Eocene aquifer is a local aquifer and is tapped by 10 operational agricultural private wells distributed in the region. The total discharge capacity from these wells is approximately 9.0 million cubic meters annually according to PWA. The depth of the water level in this aquifer ranges from 10 to 180 meters below the ground surface. In general, wells drilled in the Eocene aquifer are shallow with depths range between 100-250 meters. The extensive use of fertilizers in agricultural activities, lack of sewerage systems and uncontrolled sewage disposal in the project area are considered potential sources of pollution to groundwater.

The Turonian-Upper Cenomanian aquifer consists of three formations, Jerusalem, Bethlehem, and Hebron which hydraulically act as one aquifer characterized by its high groundwater potential. Wells in the Turonian-Upper Cenomanian aquifer are characterized by great depth (400-950 meters), high discharge capacity, and good water quality. Wells drilled in the Turonian-Upper Cenomanian aquifer system are mainly used for domestic purposes. Saadeh Well and Jenin Municipal well, which discharge approximately 1.58 MCM annually are using this aquifer.

The shallow and deep aquifers are separated by Senonian Chalks that form a strong aquiclude, forming natural protection for the deep aquifer from surface pollutants and mixing with the Eocene aquifer water (USAID Jenin Bulk Water System Environmental Documentation and Review Report, 2018).

4.1.5 Ecological Resources

The ecosystems in the West Bank support a diverse range of habitats and species, comprising a composite of African, European, and Asian flora and fauna. The Ministry of Planning studied ecologically significant and sensitive areas to identify and evaluate their "value, importance, sensitivity, and vulnerability." Using these studies, they have designated 50 areas for protection from development. None of the project components would occur within any of the 50 areas identified (USAID Jenin Bulk Water System Environmental Documentation and Review Report, 2018).

4.1.6 Fauna

Animals, including birds, are distributed in Palestine in 16 agro-zoological areas. The project area is within the Mediterranean agro-zoological area. The most common bird in the project area is the chukar or chukar partridge (Alectoris chukar). The species is not limited to the project area and, being widely distributed throughout all Palestinian mountain areas and relatively unaffected by hunting or habitat loss, is not threatened. Hunting of chukar is allowed.

Reptiles, including the Balkan emerald lizard (Lacerta trilineata) and Middle Eastern short-fingered gecko (Stenodactylus doriae), are commonly found in Palestine (USAID Jenin Bulk Water System Environmental Documentation and Review Report, 2018).

4.1.7 Protected Species and Areas

Under the National Spatial Plan, in 2014, the Ministry of Planning prepared the Protection Plan for Natural Resources and Archaeologic Sites in the West Bank including the Northern Governorates. The plan classifies the project area predominantly as agricultural land of high and medium value, landscape of medium value, built-up area and forest area. There is an area classified as forest (Al-Suweitat forest), few kilometers far away from the project site, which was planted with Cupressus trees. However, no project components would be constructed in or adjacent to the forest.

The following observations were made after conducting the field investigations:

- No biological resources (flora or fauna) will be affected during construction of the proposed facilities in this project. All existing flora or fauna are common species.
- The land parcels for construction of the regional reservoir were investigated and the following plants and common species indigenous to the area in specific and the Mediterranean in general were identified:
 - summer pheasant's eye (*Adonis aestivalis*)
 - smooth barley (*Hordeum murinum* subsp. *glaucum*)
 - lilies-of-the-field (Anemone coronaria)
 - high mallow (*Malva sylvestris*)
 - blood flower (*Scadoxus multiflorus* subsp. *multiflorus*)
 - No special or rare species habitats exist within the construction sites.

4.1.8 Air Quality

Compared to other environmental issues within the West Bank, air quality is not considered to be a priority. With the exception of fugitive particulate emissions, the ambient air quality appears to be acceptable. Winds are either from the Mediterranean or from the Negev Desert, neither of which is a source of anthropogenic emissions. Particulate matter appears to be principally in the form of dust from disturbed surfaces and streets (paved and unpaved) that is entrained into the air by motor vehicle tires and the wind. There is widespread agricultural groundcover and street drainage is good, resulting in only minor occurrence of airborne dust.

4.1.9 Land Use and Socioeconomics

Cultivated land represents 31% of the land area of Jenin Governorate. However, predominantly, the project area is cultivated, mainly with olive and almond trees. The plain of Marj Ibn Amer northeast of Jenin Governorate is heavily utilized for agricultural purposes including cereals (wheat, barley, lentils, chick pea) and vegetables. Scattered poultry farms, limited housing outside of the villages, and few commercial or industrial activities are present in the project area (USAID Jenin Bulk Water System Environmental Documentation and Review Report, 2018).

Poverty levels, literacy levels, population composition, IDPs, and utilization of building in the subproject area are presented in Tables 4.1, 4.2, 4.3, 4.4, and 4.5 below.
Community	Number of Poor Individuals	Poverty Percentage
Arabuna	77	7.6
Beit Qad	147	7.6
Jalboun	350	12.7
Deir Abu Daief	878	12.9%

Table 4.1: Poverty Levels in the Project targeted areas (Deir Abu Daief, Beit Qad, Arabuna, and Jalboun)

Table 4.2: Literacy level s in the Project targeted areas (Deir Abu Daief, Beit Qad, Arabuna, and Jalboun)

Community	Illiterate	Can Read and Write	Elementary	Preparatory	Secondary and above	Literacy percentage
Arabuna	26	115	201	271	151	2.5%
Beit Qad	57	149	283	410	561	2.9%
Jalboun	116	242	399	552	837	4.15%
Deir Abu Daief	179	649	1066	1726	1530	

Table 4.3: Composition of the Population in the Project targeted areas (Deir Abu Daief, Beit Qad,
Arabuna, and Jalboun)

Community	Sex	Total	+65	15-64	0-14
	т	1,005	54	595	356
Arabuna	М	512	26	303	183
	F	493	28	292	173
	т	1927	86	1184	657
Beit Qad	М	972	36	604	332
	F	955	50	580	325

	М	768	28	476	264
	F	740	50	459	247
	Т	2,758	151	1,737	870
Jalboun	М	1,419	63	875	481
	F	1,339	88	862	389
	Т	6,908	259	4,052	2,597
Deir Abu Daief	М	3,461	111	2,052	1,298
	F	3,447	148	2,000	1,299

Table 4.4: IDPs in the Project targeted areas (Deir Abu Daief, Beit Qad, Arabuna, and Jalboun)

Community	Registered Refugee	Non-Registered Refugee	Not Refugee
Arabuna	234	57	714
Beit Qad	438	25	1464
Jalboun	2088	28	642
Deir Abu Daief	86	19	6801

Table 4.5: Utilization of Building in the Project targeted areas (Deir Abu Daief, Beit Qad, Arabuna, and Jalboun)

Community	Total Buildings	Habitation Only	Habitation and work	Work only	other	Number of Operating Establishments
Arabuna	198	154	5	6	33	11
Beit Qad	422	318	9	33	32	42
Jalboun	656	512	17	46	81	60
Deir Abu Daief	1503	1118	66	96	99	176

Land ownership is described and provided in table 2.1 and section 4.1.11 of this ESMP. The supporting documents are also annexed to the ESMP (Annex 1). The laws relevant to land tenure are detailed in the WSRP ESMF.

4.1.10 Archaeological Resources, Recreation, and Tourism

No archaeological, cultural or historical sites were found in the project areas (USAID Jenin Bulk Water System Environmental Documentation and Review Report, 2018).

4.1.11 Infrastructure

Water Supply and Wastewater

Water Supply: Based on the PWA figures from 2022, a total of 2.65 million cubic meters of water were purchased from Mekorot. The overall water supply for Jenin Governorate during the year, including the purchased quantities, amounted to 8.6 million cubic meters.

Currently, Deir Abu Daief village lacks a public supply system for providing water to residents. As a result, they rely solely on private water vendors for their drinking water needs. In Deir Abu Daief, one filling point is available and provides water for agricultural and domestic purposes. The cost of purchasing water from these vendors varies depends on the location and the distributor. The table below illustrates the current costs per 1m³ of purchased drinking water from private vendors.

Table 4.6: water supply and current	costs per 1m ³ of purchased drink	king water from private vendors

Available water tankers (size)	Number of tankers	Cost per cubic meter
10 m ³	9	10 ILS**/m3
4 m ³	1	15 ILS/m3

**ILS: Israeli Shekels (currency)

Deir Abu Daief is one of ten communities under Marj Bin Amer joint municipality area. These communities rely completely and for the long term on cesspits and septic tanks for sewage collection from homes and facilities in the area, but with time, part of the cesspits and septic tanks get filled which can turn into a health hazard forcing the citizen to either dig other pits or evacuate the filled cesspits by means of a suction tank. There is a privately-owned suction tank in the area with a capacity of 8 m³, which disposes the evacuated sewage into the Jenin WWTP, at the rate of 6 tanks on a daily basis for the whole area of Marj Bin Amer.

Nevertheless, the Planning and Building Department at the Municipality of Marj Bin Amer, the citizen who requests the issuance of a building permit is obligated to design a cesspit that conforms to the specifications and with the approval of the competent authorities, and to take a consent from the citizen to fully comply with the construction and health conditions.

The villages Beit Qad, Arabuna and part of Jalboun lack public supply systems to accommodate residents water demand. As a result, they rely solely on WBWD filling points installed earlier in previous USAID water project in addition to private water vendors for their drinking water needs. The cost of purchasing water from the vendors varies depending on the size of the water tank and the distributor. The following table provides an overview of the various water tanker quantities, their

respective sizes, and the corresponding cost per cubic meter. The new tariff will result in reduced costs for consumers compared to the baseline. This information is later reiterated in the report.

Locality	Available water tankers (size)	Number of tankers	Cost per cubic meter
Beit Qad	10 m³	 1 PWA tanker 3 privately owned tankers	7 ILS/m ³ , 10 ILS/m ³)
Jalboun	10 m ³	4	8 ILS/m ³
	10 m ³	2	12 ILS/m ³
Arabuna	4 m ³	Multiple	Cost = 12.5 ILS/m ³

Table 4.7: Domestic water supply and current costs per 1m³

**ILS: Israeli Shekels (currency)

In the targeted communities, however, due to the lack of proper collection and treatment facilities, safe disposal is not effectively achieved. Therefore, onsite sewage disposal cesspits and septic tanks are normally used for disposal of the generated wastewater. The common practice involves using vacuum tankers to remove sewage from septic tanks and cesspits. The wastewater is transported to designated locations defined by the village council situated far away from residential and agricultural zones, ensuring minimal disruption to these critical areas. Notably, it is important to emphasize that the current wastewater evacuation practice is only employed by 15% of the households within the village. Nevertheless, the discharged wastewater is often directed into nearby wadis that are dry most of the time, except during the rainy season. As a result of this practice, foul odors arise, and there is a potential risk of environmental pollution and health hazards. The discharged wastewater contaminates surface water and, in some cases, may affect groundwater resources. Additionally, it creates breeding grounds for insects, rodents, and other organisms that can transmit infectious diseases.

The implementation of the sub-project would increase per capita water use and the population served by the WDS. This would substantially increase the quantity of wastewater generated, and the magnitude of wastewater disposal would therefore increase. Although the effluent pollutant concentration would be reduced, the discharge of larger volumes of untreated wastewater to nearby Wadis and open vegetated areas would increase the potential of groundwater pollution. Mitigation measures for wastewater management are provided in this ESMP in the section on mitigation measures. -------

Nevertheless, according to the Planning and Building Department at the Municipality of Marj Bin Amer, citizens who requests the issuance of a building permit are obligated to design cesspits that conform to the specifications and with the approval of the competent authorities.

<u>Roads</u>

The project area is accessed via an existing road network comprising regional and local roads. The roads network is mainly paved and in good condition. All installations and construction work under the scope of this Project would be implemented within or along these roads. Small segments of these local roads are dirt roads.

Electricity

Electricity is supplied for all communities within the project area by Northern Electricity Distribution Company (NEDCO), providing 24-hour access to electricity. The existing electrical service between villages within the project area typically comprises 33 kilovolt medium voltage overhead transmission lines. Electricity to the booster pump stations and regional reservoir tanks would be provided by the existing electricity transmission lines through 33/0.4 KV step down transformers. Electricity lines were observed nearby and along proposed transmission pipeline alignments, booster pump stations and water tank sites.

Public Health and Safety

People who reside in the project area suffer from the absence of water distribution network. The World Health Organization (Howard and Bartram 2003, World Health Organization 2003) recommends a minimum of 100 liters per capita per day, supplied through multiple water taps within the house, as a standard for individual water use to assure consumption, hygiene, and other household needs.

Due to the intermittent and unreliable delivery of safe piped water, residents of the West Bank are forced to seek alternative sources of water. These can include so called "unimproved" sources, such as rainwater harvesting cisterns, tanker trucks, and unprotected springs. Only 11 percent of West Bank households use appropriate water treatment methods when using an unimproved drinking water source (PCBS 2015). The relationship between poor drinking water quality and disease is well documented. Unsafe drinking water can be a significant carrier of diseases such as cholera, typhoid, and diarrhea. The supplied water quantity will meet the WHO standard for every household and the Palestinian Standards for Drinking Water.

Booster pumping station

Land allocated for the booster pumping station is owned by Deir Abu Daief Local Council. Official land ownership documents are provided in annex 1. The land allocated for the pump station site is located in a residential area. The land is not cultivated. The figure 4.1 below shows an aerial map of the booster pump station site.



Figure 4.1 below shows an aerial map of the Deir Abu Daief booster pump station

Land allocated for the booster pumping station is owned by the village council. The land allocated for the pump station site is located near civil defense center in a residential non-cultivated area. The figure 4.2 below shows an aerial map of the booster pump station site in Beit Qad.



Figure 4.2 an aerial map for the booster pump station in Beit Qad

On ground water tank

The on-ground water tank will be constructed on land owned by Deir Abu Daief Local Council, and official land ownership documents are provided in annex 1. The designated land is currently unused for agricultural activities and is situated in a mountainous area, away from residential zones. The closest residential building to the on-ground water tank site is approximately 350 meters away, and the nearest house under construction is about 100 meters away. Access to the site is facilitated via a steep slope dirt road. For a visual reference, an aerial map of the on-ground water tank site is presented in figure 4.3 below.



Figure 4.3 below shows an aerial map of the on ground water tank in Deir Abu Daief

The designated land for the water tank and booster pumping station is sufficient to meet the temporary requirements for the storage of construction materials and machinery. Furthermore, the standard bidding documents will include a requirement for the contractor to furnish a comprehensive list of storage areas during the project's mobilization phase. Alongside this list, the contractor will be requested to provide all necessary landowner agreements pertaining to the borrowing of these sites. These agreements, along with their respective dates, will be promptly submitted to the resident engineer (or equivalent) to ensure proper documentation and compliance. As a result, there will be no impact on adjacent private land.

Elevated water tanks

The proposed elevated water tank for Beit Qad will be constructed on a land owned by Marj Bin Amer Municipality, and is 100m far from the closest residential building.

The Arabuna proposed elevated water tank will be constructed on a land owned by Arabuna Local Council within a residential area. Official land ownership documents are provided in annex 1.

The lands are not used for any agricultural activities and free of all encumbrances, ensuring clear and unencumbered ownership with no legal claims, restrictions, or limitations that could affect its use.

Aerial maps of the elevated water tanks site on Beit Qad and Arabuna are presented in figure 4.4 and 4.5 below.



Figure 4.4: Aerial map of the elevated water tank for Beit Qad



Figure 4.5: Aerial map of the elevated water tank for Arabuna

The designated land for the water tank and booster pumping station is sufficient to meet the temporary requirements for the storage of construction materials and machinery. Furthermore, the standard bidding documents will include a requirement for the contractor to furnish a comprehensive list of storage areas during the project's mobilization phase. Alongside this list, the contractor will be requested to provide all necessary landowner agreements pertaining to the borrowing of these sites. These agreements, along with their respective dates, will be promptly submitted to the resident engineer (or equivalent) to ensure proper documentation and compliance. As a result, there will be no impact on adjacent private land.

4.2 Population and Socio – economic data

The project targeted area of Deir Abu Daief is located 7 km east of Jenin city. According to the PCBS estimated data from mid-2023, the village has a population of around 7,895 and approximate area of about 3304 ha. The village is surrounded by irrigated agricultural land. Citizens of the Deir Abu Daief obtain water through a filling point located at the main existing Chamber of the WBWD.

The project area in the targeted communities of Beit Qad, Arabuna, and Jalboun is located on the northeastern part of Jenin governorate. According to the PCBS, the target area has a hosted population of around 6,428 in 2022 and approximate area of about 2456.9 ha. The area is surrounded by irrigated agricultural land. Citizens of the targeted communities obtain water through a filling point located at the main existing Chamber of the WBWD.

The economy of the project area depends mainly on the agricultural sector; the employment sector in the governmental and private sectors is the second most important economic activity.

Employment:

According to the PSBS, the percentage of unemployed persons in Jenin Governorate aged 15 years and above in 2020 was 21.3%, where 17.3% of all males and 41.2% of all females were unemployed.

Status of women and role in water sector:

No clear demographic data on this subject in the targeted communities (the project will establish new WDS). Nevertheless, The Water Governance in Palestine National Report, 2015, stated that there are shortcomings in terms of women participation in the water sector in Palestine, which are manifested in very few regulations pertaining to gender inclusion; the number of women in the public sector workforce is rather low and the capacities of the institutions to promote and develop their female employees weak; and poor inclusion of women at the community level in environmental issues/management. Women's representation in technical and specialized jobs is rare as insufficient attention is given by decision makers to issues like training and capacity building. Analysis and evaluation of the plans and policies of the water institutions indicated that they are not gender sensitive, nor responsive and lack the tools and mechanisms that guarantee mainstreaming gender participation.

Therefore, the Palestinian authorities have devised a Gender Strategy to promote the idea of integrating and addressing gender in the water sectors. Moreover, the Water Sector Reform Plan (2013 - 2015) acknowledges that there are groups of the society, such as the poor or marginalized and women, with limited access to water and wastewater services, and therefore guarantees their access.

Status of GBV/SEA/SH:

During the consultation sessions with stakeholders and communities` representatives, and consultations done with marginalized groups (i.e. women and people with disabilities) no concerns have been raised regarding GBV/SH/SEA, indicating a low anticipated risk in this regard. Nevertheless, GBV/SEA/SH GM referral pathways are established to prevent and mitigate potential GBV/SEA/SH risks.

Security situation in the subproject area:

The project targeted areas, similar to other areas in Jenin Governorate, are expected to have tense security events as part of the current political situation in the area. Accordingly, an Emergency Response Plan (ERP) will be prepared by each contractor after assessing potential risks and hazards and political situation and security emergencies that could be encountered during construction. Security Emergency Plan shall describe the various security measures and emergency communication protocols necessary to maximize personal wellbeing and safety during security emergency situation.

Willingness and affordability to pay for new water to be supplied:

Consultations with the stakeholders and local community representatives of the villages revealed their willingness to pay for the service. Besides, the tariff bylaw and structure have been designed to consider the different categories of beneficiaries in affordable bases.

5. Labor Management Procedures

5.1 Labor Management Procedure

A Labor Management Procedure (LMP) for the project has been developed by PWA to facilitate planning and implementation as well as manage labor related risks and impacts of the WSRP Project. The LMP sets out the Project's approach to meeting the national requirements as well as the World Bank's Environmental and Social Framework including the standards for Labor and Working Conditions (ESS2) and Community Health and Safety (ESS4).

Labor Use on the Project:

The following subsections describe the workers engaged in the implementation of the project activities.

Direct workers: Direct workers include the Project Coordination Unit (PCU) staff who will be responsible for the day-to-day management of the WSRP-1 project, overseeing all fiduciary, environmental, and social aspects, as well as monitoring and reporting. As part of the PCU, dedicated support will be provided by field engineers who will be recruited by PWA and reporting directly to the PCU while being stationed on-site. These field engineers will share offices with the contractor to ensure seamless coordination and effective project management. Direct workers include PCU staff and field engineers who are PWA employees either transferred or hired to work on the project.

Civil Servants: PWA's civil servants are PWA's staff who work on this project (full-time or part-time) but have not formally transferred to the WSRP program. These workers will be subject to the existing terms and conditions stated in their job contracts with their respective entities. Nevertheless, as stated in the LMP, the provisions of ESS2 related to protection of the workforce - including for child

labor and minimum age and forced labor - and OHS (including SEA/SH issues) will apply to such employees.

The estimated number of direct workers and civil servants working on this sub-project is expected to be 20 workers.

Contracted Workers: Contracted workers including consultants for design, and contracted workers, for construction work who will be engaged with the contractor. Contractor might need to engage subcontractors. The sub-contractors' workforce will be also considered as contracted workers. The Contractors' teams would likely include the Project Manager, Supervisors, Office Engineer, site engineer or foremen, Environmental and Social Officer; OHS Officer, and the Technical and Support Staff.

Contracted workers will also include the Construction Supervision Engineer team who will be responsible for the supervision and construction management of the project. The Supervision Engineer team are specialized in specific disciplines (i.e., Management of the Implementation of the Project, Supervision, Scheduling, Quality Control, Occupational Health & Safety, and implementation of Environmental and Social Standards requirements and E&S Relations).

Contracted workers will also include the Supervision Engineer Team who will be responsible for the supervision and construction management of the project. The Supervision Engineer Team are specialized in specific disciplines (i.e., Management of the Implementation of the Project, Supervision, Scheduling, Quality Control, Occupational Health & Safety, and Environmental and Social Relations). The Supervision Engineer Team will be hired by PWA under a contract with a specific definition of the assigned tasks and responsibilities. All contracted workers might be hired on a casual/daily or temporary basis. The estimated workforce varies between skilled labors, semiskilled labors, drivers for excavators, and unskilled laborers. All of the above workers most probably will be males. The number of the Contracted workers assigned for the project might include 40-50 persons.

Workers under the age of 18 will not be permitted in the implementation of the Project. The contracted workers would be recruited from the local market with fixed terms or casual/daily wage basis. The WSRP LMP will apply to this category of workers.

Community Workers: Community workers, as defined under the ESF, will not be employed under this sub-project. However, following standard practice from previous projects, community members will be hired by the contractor as skilled and/or unskilled labor (as required) for the project and will therefore be considered as "contracted workers".

Primary Supply Workers: Primary supply workers would be engaged by the Project's private local suppliers for the project materials such as bedding material, concrete mix, asphalt mix, mechanical and electrical equipment for the water tank and booster station, etc. The estimated workforce includes mainly drivers of concrete mixers and construction materials, drivers and operators of asphalting equipment, and the managerial staff at the suppliers' side. The staff will potentially include both males and females and in the positions of skilled, semiskilled and unskilled workers/labor. Relevant provisions of the LMP, in line with ESS2, will apply. These include an assessment, by PWA, of the risks of child labor, forced labor and serious safety concerns at the primary supplier level; identification of the risks of child or forced labor by the primary suppliers (if relevant) and monitoring by PWA/Supervision firm (as appropriate and stated in the LMP). More details are provided in the LMP in case child or forced labor cases are identified in case of risks of serious safety issues.

Based on feedback from officials in Marj Bin Amer Municipality and the local councils, child labor and/or forced labor is not a local practice in the targeted areas. Children may assist their families in agricultural activities during the summer school holiday.

Table 5.1 below outlines the number of workers by type, the tasks they will perform, the estimated hours of work, and the expected duration of their employment:

Worker Type	Tasks	Skills	Estimated Number	Hours of Work	Duration of Employment	Gender
Direct Workers	Overseeing all fiduciary, environmental, and social aspects, as well as monitoring and reporting	Skilled labors	15	Full-Time	For the project period	Male/Female
Civil Servants	Project-related tasks	Skilled labors	5	Part- time	Per Contract	Male/Female
Contracted Workers	Project Manager, Supervisors, Office Engineer, site engineer or foremen, Environmental and Social Officer; OHS Officer, and the Technical and Support Staff	skilled labors, semiskilled labors, drivers for excavators, and unskilled laborers	40-50	Full-Time and part- time, casual	For the project period	Male
Primary Supply	Delivery and Material Handling	skilled, semiskilled and unskilled workers/labor	As needed	Full-time and Part- time	As needed	Male/Female

Table 5.1: Description of Project workers

6 Implementation arrangements

6.1 Institutional and Implementation Arrangements

PWA will act as the implementing agency for the project with responsibility for the overall management of the project through the Project Coordination Unit (PCU). PWA has long experience in the implementation and coordination of the World Bank and donor projects. Furthermore, PWA has prepared a Project Procurement Strategy for Development (PPSD) and a Procurement Plan (PP) for the first 18 months, in which PWA will prepare and update its procurement plan over the Project period on regular basis and based on its needs and in harmony with the PDO and Project defined components. The disbursement plan will be based on the PP, and accordingly PWA will effectively carry on the implementation of the relevant components of the Project through the PCU.

PWA

PWA will be the Implementing Agency for the WSRP-1 project including this subproject. PWA will establish a dedicated Project Coordination Unit (PCU) within its organization, which will be further reinforced by two field engineers recruited by PWA and reporting directly to the PCU.

The PCU will consist of a Project Manager, Financial Specialist, Procurement Specialist, Monitoring and

Evaluation Specialist, GIS Specialist, Environmental Specialist, Social and Gender Specialist, Institutional Specialist, Communication and Field Engineers. These team members will facilitate coordination and monitor the physical implementation progress on a day-to-day basis including project oversight, implement environmental, social, health and safety requirements, and coordinate with stakeholders to achieve the Project Development Objectives.

Supervision Engineer

The PWA will engage an engineering firm as the construction Supervision Engineer to oversee construction activities, ensuring adherence to design specifications, quality standards, and ESMP implementation. The Supervision engineer will also be responsible for generating monthly E&S compliance reports and submitting them to the PCU. The Supervision Engineer shall assign an ESHS Officer and additional technical and support staff for the project. The Supervision Engineer will also be responsible for other technical tasks in accordance with the contracts signed with PWA.

Project Steering Committee (PSC)

The PSC will be chaired by the Program Director which will facilitate higher-level support for the monitoring and follow-up on the project and allow to advance discussions on the subsequent projects within the SOP. The PSC will include representatives of the Ministry of Finance, Ministry of Agriculture, Environmental Quality Authority, MoLG, local district-level stakeholders including WBWD, WSRC, the RWUs which will be established during the project implementation in accordance with the 2014 Water Law¹⁰, and representatives of NGOs and academia. This committee will serve as a coordination platform for the multifaceted interventions. The PSC meetings will be conducted semiannually and as needed, to report on the project progress and seek support on the multi-sectoral aspects of project implementation. As needed, relevant authorities and stakeholders will participate during the implementation of relevant project activities.

Contractor

The contractor is obligated to prepare the Contractor E&S Management Plan (C-ESMP) along with various E&S plans, encompassing Labor Management Plan (LMP), Waste Management Plan (WMP), OHS Plan, Traffic Management Plan (TMP), Emergency Response Plan (ERP), and Pollution Prevention Plan. Their role in implementing the ESMP during construction phase includes supervising and ensuring compliance with social and environmental requirements. Furthermore, the contractor must adhere to the specified Code of Conduct (CoC) in the bidding documents and the signed contract. They are also responsible for maintaining records of recruitment, employment processes, workers' GM cases, and E&S corrective measures (as required), while providing regular monthly reports on the implementation and compliance to all E&S requirements of the project. The Contractors shall assign an E&S Officer, OHS Officer with qualifications relevant to the environmental, social, and OHS requirements.

Subcontractors and Suppliers of Construction Materials

Subcontractors and material suppliers must adhere to the C-ESMP and relevant site-specific contractors' management plans. The Contractor's &S Officer and OHS Officer will oversee and ensure their compliance with these plans.

The project implementation arrangements chart is presented in **Figure 6.1** below.

¹⁰ Water Law new 2014.pdf (pwa.ps)



Figure 6.1. Implementation Arrangements for WSRP SoP-1

During the Operation Phase, Marj Bin Amir Municipality and the Village Councils for the targeted communities will be in charge of operating and maintaining the new water network. This arrangement is temporary, as RWUs¹¹ will be established during the project implementation, in compliance with the Water Law 2014. Once established, this dedicated utility will assume full responsibility for the ongoing operation and maintenance of the water supply and networks in the northern part of the West Bank. The RWU will take over the responsibility for the operation and maintenance, as well as ensuring compliance with the E&S requirements.

7 Environmental and Social Risks and Impacts

7.1 Potential Positive Impacts

The project is expected to have several positive impacts (beneficial) as follows:

1. During the Construction Phase:

The project will provide employment opportunities during the construction phase for the workers, workers in the support services (supply of the construction materials and equipment/supply chain), Palestinian companies and suppliers of the construction material and equipment.

2. Water Supply:

- (a) Ensure equitable access of the population to climate-resilient, safely managed water supply,
- (b) Improve the reliability and quality of water supply services in Jenin NE villages, and
- (c) Increased number of households benefiting from increased hours of water supply.

¹¹ Regional Water Utilities are responsible for the provision of water and wastewater services each within its specified administrative and geographical scope.

3. Climate Co-Benefits

Include significant reduction of Greenhouse Gas (GHG) Emissions to the atmosphere by reducing reliance on water-tanker trucks. The installation of new WDSs in the project area is expected to replace the use of diesel-fueled water-tanker trucks, which are estimated to currently serve around 70 percent of the population in the target villages, generating a constant flow of GHG gases among other atmosphere pollutants affecting air quality. The contribution to reducing GHG emissions was estimated at 2,334 tones CO₂ equivalent per year. The estimation used the World Bank Group Green House Gas Accounting tool for water investment and lending projects. The GHG emissions associated with the operation of water systems come from the energy consumption of the pumping stations.

4. Improve community social behavior, health, and economy

(i) behavior change related to the conservation of water, payment for public services, tariff revision, and acceptability of water prices through planned consultations and stakeholder engagement activities, awareness raising activities and the project's GM. (ii) Improve the health situation of the citizens of the served communities by providing them with safe and disinfected drinking water and eliminating their dependence on water tankers/vendors providing water of poor or undetermined quality. Consultations with water vendors revealed that these businesses also have other sources of livelihood such as agriculture, concrete batching plants etc. The equipment currently used for water vending is also used to transport excavated material, base course etc. In addition, water vendors will continue to provide water for agricultural purposes and drinking water to remote locations that will not be connected to the network supported under this investment. Hence, the risk of loss of livelihood to vendors is currently assessed as moderate. This risk will be further assessed prior to the completion of this investment and mitigation measures, as appropriate and if required, will be implemented prior to initiating network services (iii) Encourage investors to implement new industrial and commercial facilities in the served area, thus increasing employment opportunities.

5. Strengthen sustainability:

Sustainability is a core principle that has been integrated into the design of this subcomponent at several levels. It includes careful consideration and planning to address a range of important factors for the water sector services, including the following:

- **Technical sustainability.** The project will develop/improve the technical design which will support the operational sustainability of the institution and the water infrastructure in the post-project phase. This will include careful consideration of water source options (quality, quantity, security/climate resilience, and operational implications) and operational capacity constraints.
- Environmental sustainability. The overall environmental impact of the project investments in Jenin NE villages will be largely positive and will include (i) provision of safe drinking water supply, and (ii) overall improvement of water supply systems due to efficiency gains. It will also reduce the reliance on diesel-operated tanker trucks. The adverse environmental impacts associated with the project activities are mainly construction related and are moderate in scale; temporary and reversible in nature; limited in impact; and can be effectively prevented, minimized, or mitigated through good environmental management practices.
- Social sustainability. The project, using the Water Sector Awareness Strategy (2016) as a base will ensure social sustainability through the engagement of all stakeholders in project preparation. The project will implement public awareness and intensive community mobilization, behavior change campaigns, and the development of stronger accountability measures between PWA, Service Provides, and customers. The citizen/community engagement and public awareness interventions will be designed separately under project Subcomponent 2.3, "Improve Social Accountability of Service Providers", and implemented during the project. Stakeholder

engagement will also be ensured through implementation of the project SEP which also covers preparation and implementation of project ESMPs.

- The project will provide employment opportunities and labor employment during the construction phase: labor employed for construction work, workers in the support services (supply of the construction materials and equipment/supply chain), Palestinian companies and suppliers of the construction material and equipment.

7.2 Potential Negative Environmental and Social (E&S) Impacts during Project Phases

Method used to assess the E&S risks, and risk rating

The following section presents the environmental and social risks/impacts related to the project activities during the construction and operational phases and the sensitivity of the receiving environment. Identified impacts were evaluated in terms of their *spatial influence, duration, intensity and, probability*. Identified negative impacts have different levels of significance, as indicated in Table 7.1. The following table describes the criteria used for E&S impact evaluation.

Evaluation	Description	Rating
Parameter		
Spatial	Low: Within the project site	1
Influence (SI)		
	Moderate: Widespread impact beyond site boundary; Local	2
	Substantial: Widespread impact beyond site boundary; Local	3
	High: Impact widespread far beyond site boundary; Regional/national	4
Duration	Low: Quickly reversible, less than project life, short term (0-5 years)	1
	Moderate: Reversible over time; medium term to life of project (5-15 years)	2
	Substantial: of difficult reversibility overtime; medium term to life of project (5-	3
	15years)	
	High: Beyond closure; permanent; irreplaceable or irretrievable commitment of	4
	resources	
Intensity	Low: Minor deterioration, nuisance or irritation, very little quality deterioration;	1
	very little improvement	
	Moderate: Moderate deterioration, discomfort, Partial loss of resource or slight or	2
	alteration; moderate improvement	3
	Substantial: alteration or disturbance is significant	
	High: Substantial deterioration, death, illness or injury, loss of resource, severe	4
	alteration or disturbance important processes; severe improvement	
	Low: Unlikely; low likelihood; No known risk or vulnerability to natural or induced	1
	nazards. Unlikely; low likelihood; Seldom No known risk or vulnerability to natural	
	or induced nazards.	2
Probability	woderate: Possible, distinct possibility, frequent Low to medium risk or	Z
	vulnerability to natural or induced nazards.	2
	basards	5
	High: Definite (regardless of provention measures), highly likely, induced hazards	Л
	Regard on the extent of constal influence, the forecoop intensity regative impact	4
Rick rating	duration of the impact and the likelihood of risk occurrence, the overall ESS risks	
Nisk ratilig	is therefore rated as low moderate, substantial, or high	
	is therefore faced as low, moderate, substantial, of mgn.	

Table 7.1: Impact Evaluation Criteria

Environmental and Social screening for the WDS was carried out and key impacts and risks were identified.

A summary of the main potential impacts is provided below. Impacts, and associated mitigation, are covered more fully in the ESMP mitigation table below. The environmental and social risk is rated as "substantial" as some of the project activities will involve:

7.2.1 Environmental risks and pollution prevention

This project will be associated with the following environmental risks:

A. Impact on Soil

Based on the data and knowledge of the project area relevant to the groundwater, the water table shall not be reached by the Project facilities (foundations, trenches). The primary activities in this project that will impact the soil include excavation and backfilling for the pipe network, pumping stations, and water tank sites. The pipeline will mainly be installed in paved routes, with an excavated trench width ranging from 0.4 to 0.8 meters and a depth ranging from 0.6 to 1.2 meters. The excavated areas are susceptible to erosion from storm water runoff and wind due to the disruption of their natural properties during excavation. The excavated soil, mostly rock and clay, cannot be used for backfilling and will be removed from the construction sites under the Supervision Engineer's supervision. The construction contractor will obtain backfilling material in accordance to the project specifications from other locations in the West Bank.

Considering this assessment, the impact on soil during the construction and implementation of the project components is of Low Significance (as indicated in Table 8.1). It will be controlled through mitigation measures, focusing on waste management and maximizing the reuse of excavated soil as backfill material whenever it meets the required specifications.

Operational Phase

During the operation phase, the project components will not have any impact on soil quality or quantity. This is because all the water tank and pumping station sites will undergo appropriate landscaping, and the trenches for pipes will be reinstated during the construction phase.

B. Noise emissions

Based on the assessment of the baseline conditions of noise in relation to the proposed project activities, the main impact receptors are identified as:

- The local community
- The construction staff and workers

Construction Phase

During the construction phase, various activities will generate noise levels at the work site, and these levels are estimated in decibels (dB). The key activities include excavation (trench and foundation), transport and handling of soil materials/backfilling materials, compaction, and concrete batching. The potential noise effects will primarily impact the on-site workers and neighbors (as described in the community health and safety and the OHS sections). At the work site itself, the predicted noise levels range from 70 dB to 109 dB, depending on the specific activity. As one moves away from the source,

the noise levels decrease, with values ranging from 30 dB to 70 dB at 400 meters away and from 30 dB to 56 dB at 800 meters away.

Considering this information, the impact of noise resulting from the construction and installation of components for the proposed project is negative, duration is limited to works carried during the implementation phase and the overall noise risk is therefore rated as Moderate (as indicated in Table 8.1).

Operational Phase

Potential impacts of noise in the operational phase include:

- Nuisance and health impacts on workers and local residents
- Disturbance to terrestrial fauna.

Noise emissions during the operation phase are limited to the booster pump station and diesel generators that will be installed in the pumping station. The piping network will not create noise. Pumping stations within each booster pumping stations are expected to be the main operational source of noise. Pumps are expected to create a significant level of noise (in the range of 70 to 90 dB) that may exceed the limits of Palestinian standard for outdoor noise PS 840-2005. Moreover, the diesel generator may produce a noise in the range of 72 to 82 dB. Thus, the workers will be the main receptor of the noise impact. The workers and operators of the pumping station will be at moderate risk due to proximity and short period of exposure to the noise hazard (short time of the generators deployment). The impacts are expected to be of low significance_z or even negligible, to the neighboring sites, because the booster pumps and the standby generators will be specified and selected in accordance with the permissible national standards. Additionally, the standby generators will be installed inside noise-control containments.

C. Impact on Air Quality

Air quality may be affected at both the construction sites and the nearest receptors (adjacent communities, workers, and road users) to the sites for the following reasons:

- **Dust Emissions** as a result of topsoil excavation work for the foundations of the water tank, service room, and the pipes trenches that will vary according to the type of soil in the specific areas and the excavation techniques in the different sites.
- **Exhaust** from generators and vehicles/trucks that transport construction materials and dispose of surplus excavation material and construction waste.
- Construction equipment exhaust.

The Palestinian Ambient Air Quality Standards (PS 801-2010) has specific air quality standards; however, there are no specific standards for dust emissions from diffuse sources. The following air pollutants are expected in most of the construction activities and have adverse impact on the human health and environmental system:

- Fugitive dust emissions
- NOx and SOx
- CO in case of old motors
- HC unburned hydrocarbons generated through combustion processes and fugitive fuel
- PM10 fine particulate matter including soot/black;

The earthworks activities (excavation, backfilling and site restoration) will cover the different locations of the water facilities and transmission pipelines. During the construction phase, trucks bringing the

construction materials to the project site and disposing of the construction waste away from the project site might cause dust emissions and air pollutants, thus affecting the receptors. The intensity of foreseen negative impacts on air quality is moderate, duration is limited to works carried during the implementation phase and the impact is therefore rated as Moderate.

Operation phase

The only source of air emissions during the O&M phase of the facilities are related to operating the standby generator within the booster pumping station. The impact of such air emissions is considered of **low significance**, because the diesel generators are only expected to operate temporarily during power cutoffs. The compliance of generator emissions with the national permissible standards will be sufficient to safeguard against and avoid unacceptable air emissions impacts to the neighboring areas.

D. Solid Waste Management

Based on the assessment of the baseline conditions of solid waste management in relation to the proposed project activities, the main impact receptors are identified as:

- The local environment.
- The local community
- The construction staff and workers

Construction Phase

Potential impacts of solid waste during construction include:

- Harm to human health or the environment from improper handling, transport and disposal of waste.
- Unfavorable impact on the aesthetics of the area due to solid waste accumulation.
- Additional load on municipal waste management.

The construction works will produce a wide range of liquid and solid wastes. These wastes include: packaging and domestic wastes, spent welding rods, grinding wheels, visors and shot blast from welding operations, spoil and surplus rock from boring activities or backfilling, used lubricating oils from machinery maintenance, rest of materials, pieces of pipes and cables, wastewater from pressure test and disinfection waters. In case of improper management of construction solid waste, the local environment will be negatively impacted in terms of pollution and risking wildlife. Moreover, public health and safety of the local community will be negatively impacted.

Concerning the above assessment, the generation of solid waste on the community and the environment during the construction and implementation of the project components is considered of <u>Moderate Significance</u> and will be controlled by applying the mitigation measures related to waste management and by maximizing the reuse of the excavated soil as backfill material, wherever meeting the required specifications.

Operational Phase

During the Operation and Maintenance (O&M) phase of WDSs, solid waste can be generated from various sources, including maintenance and repair activities, cleaning and flushing of pipelines and the water tank, packaging and consumables, routine operations, and landscaping and vegetation trimming around the water tank and booster pumping station.

Concerning the above assessment, the generation of solid waste during the O&M phase is considered of **Low Significance** and will be controlled by applying the mitigation measures related to waste management.

E. Sanitation and wastewater generation

Based on the assessment of the baseline conditions of sanitation and wastewater in relation to the proposed project activities, the main impact receptors are identified as:

- The local environment.
- The local community
- The construction staff and workers

Construction Phase

Potential impacts on sanitation during construction include:

- Accidental damage during excavations to existing utilities and structures, including cesspits and septic tanks.
- Spills of raw sewage due to accidental damage of cesspits or septic tanks.
- Indirect impacts on public and workers health from accidental raw sewage spills

There are no sewage collection systems in the subproject areas and all buildings (houses, institutes and commercial stores, etc.) use cesspits or septic tanks for wastewater disposal which are usually constructed within the building boundaries. Nevertheless, cesspits or septic tanks could be found near the pipelines` routes especially in the densely populated areas. The accidental damage of these cesspits or septic tanks may be expected. The damage of cesspits or septic tanks will lead to spill of wastewater and consequently may pose a threat to the workers, public health, and ground water quality. It will also disrupt public services and the traffic flow. In order to avoid such risk, the village councils will furnish the contractor with the as-built drawings of the current facilities. This ensures that the installation of the new water pipelines will not disrupt the existing infrastructure.

The impacts on existing sewage collection infrastructure during construction from all project sites especially the pipelines installation is not completely avoidable given that accidental damages may potentially occur, or particular interruptions to public services may be required to be executed. The foreseen negative impacts on infrastructure are moderate and duration is limited to works carried during the implementation phase and the impact is therefore rated as Low (as indicated in Table 8.1).

Operational Phase

Potential impacts on wastewater infrastructure during operation include overloading the on-site existing wastewater disposal systems due to additional wastewater generation as a result of the increased water supply after the construction of the subproject.

7.2.2 Occupational Health and Safety (OHS) risks

This project is associated with considerable risks to occupational health and safety during construction as the project involves a range of construction activities such as pipeline trench excavation, new pipe and connection laying and joining, connection with existing pipes, trench backfilling, roadway reinstatement along the pipeline route, formworks for the building, foundations and retaining walls, mechanical work and fittings for the pump buildings and water tanks, electrical work for pump installation, etc. Potential occupational health and safety (OHS) risks for the project include injuries from falling into open trenches, lack of hazard awareness for workers (especially unskilled and semi-skilled workers), electrocution during pumping station installation, exposure to excessive noise and vibration, collision risks with heavy equipment and traffic, and the fall of objects such as pipelines and pumps during installation. Details on potential OHS risks are provided in the LMP, section 3.2.

Due to the high probability of occurrence and the high-risk involved, the OHS risk during the construction phase is rated substantial.

During operation

The OHS risks associated with the O&M of the WDS, including pumping stations and water tanks, include slips, trips, and falls; confined space hazards; electrical dangers; entanglement and machinery risks; falls from heights; noise and vibration hazards; and manual handling risks.

The OHS risk is negative, possible and likely to occur during the O&M phase and consequently it is rated moderate (as indicated in Table 8).

7.2.3 Impacts on Working Conditions

Due to the nature of the work that will be carried under this project, different types of workers will work during the construction phase, which are: direct, contracted, and primary supply workers. The types of laborers on the project, description of activities, estimated numbers, and their characteristics are addressed in section 4.1. The obligations of the Employer for each type (PWA, Supervision Engineer and Contractors), obligations of the employees, terms and conditions of employment are also addressed in the WSRP LMP, Section 5.2.

Different risks/issues related to the employment of workers in association with the project might potentially arise. These risks may relate to the followings:

- Indiscriminate wages and benefits
- Discriminatory human resources policies and procedures (e.g. based on gender)
- Indiscriminate working hours and leave;
- Child labor for contracted and primary supply workers;
- Gender-based violence (GBV) or sexual exploitation and abuse (SEA) or sexual harassment (SA).

The assessment of labor conditions identified several potential risks that need attention to ensure fair and safe working environments. The first risk relates to indiscriminate wages and benefits, which may result in disparities among workers and potential labor disputes. Another risk involves indiscriminate human resources policies and procedures, which could lead to inconsistent or unfair treatment of employees, causing grievances. These risks have been classified as moderate and can be mitigated by applying the terms and conditions of employment (section 5.1) in the WSRP LMP.

The construction and the operation stage activities of the project will provide employment opportunities for local labor/workers and hence, influx of migrant or foreign workers and associated risks are not anticipated. The transmission pipelines and other project facilities (water tank, booster pumping station) will require the workers to come from nearby towns and communities; however, there will be no need to establish labor camps. With respect to child labor, based on current conditions in the sector it is assessed that the risk of child labor is negligible and will be managed through national legislation and the provisions in the LMP. In addition, given that the workers are mainly from the surrounding communities, the risk of introducing and spreading dangerous/communicable diseases are also minimal. The Project is assessed as Low on GBV/SEA/SH risks (see section 6.2.13).

This risk on working conditions is likely to occur but in short terms in nature. Consequently, the risk is rated moderate (as indicated in table 8.1). However, the risks are avoidable and manageable by ensuring adherence to the terms and conditions stated in the WSRP's LMP.

7.2.4 Community Health and Safety

Based on the assessment of the baseline conditions of roads and traffic movement in relation to the proposed project activities, the main impact receptors are identified is the local community.

Construction Phase

The project can have various impacts on the health and safety of the community, including:

- Accidental falls in temporary excavated trenches, accidental contact with equipment, and accidental dropping of equipment and materials (such as pipes and valves), along with uncontrolled dumping of construction waste and surplus excavated material.
- Emissions of gaseous pollutants and dust from the equipment and machinery used.
- Increased background noise levels from excavators operating during the day, possibly exceeding permissible limits for residential areas nearby.
- Waste accumulation and potential burning of packaging materials.
- Loss of mobility and accessibility to individual land/asset (temporary).
- The use of equipment such as excavators and machinery can pose a risk of injuries to the local community through accidental contact.
- Traffic impacts.

Considering that the construction works in the project sites will take place alongside and in close proximity to local collectors and main roads and within a densely populated residential area, the impact is expected to be as follows (as indicated in Table 8.1):

- **Substantial in relation to accidents and traffic interruptions** due to construction works and use of machinery and equipment.
- <u>Moderate in relation to emission, noise, waste accumulation, and loss of accessibility to</u> <u>land/asset</u>.

Operational Phase

During the operational phase, the potential impacts on the health and safety of the community will be minimal as the water facilities' sites will be fenced and not accessed by the public. However, the community might be susceptible to risk due to maintenance works for the water distribution facilities resulting from interrupting traffic and using machinery. This risk is likely to occur but in short terms in nature. Consequently, the risk is rated low.

7.2.5 Impacts on Land use and land ownership

Based on the assessment of the baseline conditions of land use as provided in section 5.1 in relation to the proposed project activities, the following receptors have been recognized:

- The local environment,
- The local community
- The construction staff and workers.

Construction Phase

Potential impacts on land use and private property during construction include:

- Loss of existing small-scale agricultural areas.
- Indirect impacts on other receptors including local communities, agriculture and biodiversity.
- Blocking of excavated roads.

The project in Deir Abu Daief comprises three main components: the water tank (410m²), the booster pumping station (700m²), and the main water distribution pipelines, each requiring different types of lands for construction. The water tank site will have no impact on land use as it is currently vacant and unused.

The proposed site for the booster station is currently unutilized. The designated site for the water tank and pumping station are owned by the village council and exclusively allocated for the project's purpose, with official agreements and land ownership documents (as provided in Annex 1). For the water distribution pipelines, they will be laid within existing road right-of-ways. The RoW are not to be encroached. These roads have various characteristics, such as paved, unpaved, or interlock, with or without sidewalks, and an average width of 6m. During installation, the excavated roads will be temporarily blocked but will be reinstated to their original state within the trenched area after the water pipes are installed.

In Beit Qad, Arabuna and Jalboun the project comprises three main components: Two water tanks (112m² each), the booster pumping station (195m²), and the main water distribution pipelines, each requiring different types of lands for construction. The water tank site, indicated in figure 3.2, will have no impact on land use as it is currently vacant and unused.

The proposed site for the booster station is currently unutilized. The designated site for the water tank and pumping station are owned by the village councils and exclusively allocated for the project's purpose, with official agreements and land ownership documents provided in Annex 1. For the water distribution pipelines, they will be laid within existing road RoW. The RoW are not to be encroached. It is important to emphasize that along the pipeline routes, there are no potential businesses or agricultural lands that will be affected by the project. The Environmental and Social Management Plan (ESMP) clearly outlines that there will be no land acquisition and no temporary impact on land and livelihood along these routes, ensuring minimal disruption to local communities and businesses. These roads have various characteristics, such as paved, unpaved, or interlock, with or without sidewalks, and an average width of more than 6m. During installation, the excavation of roads may temporarily disrupt traffic for a maximum of three days. However, the contractor will develop a Traffic Management Plan (TMP) to address this, which will be submitted for approval by the PMU before commencing the work. The excavated roads will be reinstated to their original state within the trenched area after the water pipes are installed.

The designated lands for the water tanks and booster pumping stations are sufficient to meet the temporary requirements for the storage of construction materials and machinery. Furthermore, the standard bidding documents will include a requirement for the contractor to furnish a comprehensive list of storage areas during the project's mobilization phase. Alongside this list, the contractor will be requested to provide all necessary rental agreements with landowners pertaining to the temporary use of any sites (if required) for purposes of storage of material and machinery. These rental agreements, along with their respective dates, will be promptly submitted to the resident engineer (or equivalent) to ensure proper documentation and compliance and the contractor will also be

required to ensure that the used land (if any) is restored to its original condition upon completion of the rental agreement. As a result, there will be no adverse impact on adjacent private land.

Operational Phase

Throughout the operational phase, the project is expected to have minimal impacts on land use and property. The water tank and pumping station, as previously mentioned, will occupy relatively small areas, ensuring that no adjacent areas will be affected. While the installation of the infrastructure might alter the landscape, it will not change the land use or impact agricultural output and is expected to have minimal impact overall. Additionally, the proposed water distribution pipelines will be situated within the right-of-way of existing public main roads, ensuring that there will be no alterations to the current land use at these specific sites during the operational phase. Therefore, the impact on land use is assessed as *Insignificant*.

7.2.6 Impacts on biodiversity

The construction of the water supply systems in the targeted communities are considered to have no adverse impacts on biodiversity as it will take place within the Right of Way (RoW) of existing roads. The sites selected for the water tank and booster pumping station have been assessed, and no threatened or endangered animals or rare plant species were observed in and around the proposed locations. However, animal species might be impacted due to hunting by the workers and/or accidental harming during construction works. The impact assessment on animals is rated of low significance.

7.2.7 Cultural Heritage

Construction Phase: Based on the observations from site visits and consultation sessions regarding proposed locations, no evidence of archaeological or cultural heritage has been found in the areas where project activities will take place. The officially identified archaeological sites in the West Bank were cross-checked by the ESMP team, and none of them overlap with the project sites. Additionally, the Ministry of Tourism and Antiquities (MoTA), the responsible competent Authority, has confirmed that the project area lacks any heritage or cultural significance.

If unexpected or buried archaeology is discovered during construction, the chance finds procedures (annexed to WSRP ESMF) will be adopted and implemented

7.2.8 Socio-economic impact

The construction of the WDSis expected to have a negative impact on water vendors in the area, as residents will rely on the new system and may no longer purchase water from the vendors. To address this issue, it is recommended that a separate assessment be conducted to thoroughly evaluate the impact on water vendors. Proper mitigation measures, including support and consultation with the affected vendors, should be devised and implemented. A Terms of Reference (ToR) for this assessment is provided in the annex. It is crucial that the implementation of the mitigation measures/strategy begins before the start of construction and concludes before the new system becomes operational.

The socio-economic impact is assessed as a *negative long term* impact. Consequently, the risk rating is moderate.

7.2.9 Impact on Water Supply Quality

Potential risks related to the WDS's Operation and Maintenance (O&M) phase include water contamination during storage due to inadequate maintenance of the storage reservoir, insufficient disinfection, and potential entrance of pollutants from ambient air through poorly closed access hatches and air vents. Leaks and loss of pressure in the water system during transmission and distribution could also lead to water contamination, resulting from various factors like improper installation, maintenance, and corrosion protection. Additionally, impaired pipes in the downstream water supply network pose another risk.

However, the overall impact of operating the proposed reservoir, booster pumping station, and water distribution pipelines is expected to be beneficial in the long term, significantly improving water quality for domestic use.

Nevertheless, the potential contamination risks during storage and distribution are considered **long-term negative impacts with moderate significance** (as indicated in Table 8.1).

7.2.10 Social Exclusion

As the project will achieve 100% coverage, there are no anticipated social exclusion impacts. there are no groups in Access Restricted Areas, or in rural or remote areas. The Stakeholder Engagement Plan (SEP) outlines a comprehensive approach to identify stakeholder categories and ensure ongoing consultation and information sharing with all stakeholders. During the consultation sessions, no concerns were raised by attendees, indicating that the risk of exclusion is low. Nonetheless, continuous efforts will be made to maintain meaningful engagement with project affected persons to ensure their voices and needs are heard, and benefits are provided accordingly. During the consultation sessions, no concerns were raised by attendees, indicating that the risk of exclusion is **low**. The project will support 100% coverage of the households of the targeted villages with the new WDS. Furthermore, continuous efforts will be made to maintain meaningful engagement to identify any marginalized groups to ensure their voices and needs are heard and benefits are also provided to these groups.

7.2.11 Social resistance for water tariff

Water conservation is widely practiced by the village's residents due to the expensive current cost of purchasing water from vendors, which stands at 10-15 ILS/m3. However, with the implementation of the WDS, the cost is projected to significantly decrease to around 5 ILS/m3. Although there may be potential risks related to social resistance towards tariff collection measures, these risks are considered to be of low significance, considering the substantial anticipated cost reduction per m3 for the residents.

7.2.12 Affordability and Willingness to Pay for Water Services

Limited willingness to pay for water by local communities could potentially hinder future investments in the project facilities and funding for maintenance. However, during the consultation sessions with the communities, there were no concerns raised regarding their willingness to pay, as they are already paying a high cost per m3 for water. Instead, their inquiries were focused on the expected tariff structure (i.e., cost of water per m3) and they emphasized the importance of water quality and longterm sustainability. Therefore, the risk associated with limited willingness to pay is considered to be of **low significance**.

7.2.13 GBV/SEA/SH

The subproject is assessed as low on GBV/SEA/SH risk. The Project will not require establishing labor camps or experience any labor influx or issues related to the presence of migrant workers. The subproject activities will be implemented by employing small numbers of workers from Jenin area. Moreover, during the consultation sessions, no concerns have been raised regarding this matter, indicating a low anticipated risk in this regard.

8 Environmental and Social Management Plan (ESMP)

The ESMP matrix presented in Table 8.1 comprises mitigation measures for the risks and impacts identified in the previous section. It also specifies the responsible entities responsible for implementing and monitoring these measures during various stages of project implementation, aiming to prevent, reduce, mitigate, or counteract the project's adverse environmental and social effects.

Table 8.1: Environmental and Social Management and Monitoring Plan (ESMMP) Matrix

	S	ignifio	cance Impa	e ratir act	ng of			Responsibility			
Potential Impacts	Spatial	Duration	Intensity	probability	Significance	Proposed Mitigation Measures	Indicators for monitoring ¹²	Implementation	Monitoring		
A. Possible soil pollution due to spillage from machinery and construction materials	2	2	1	1	Low	 Provide well-maintained construction vehicles and machinery, in order to minimize pollutant spillages. Control the movement of machinery within the project boundaries. Protect soil from spills and/or disposal of sanitary, oil, hazardous materials, and any other possible contaminants and remove contaminated soil. Periodic check and maintenance of construction machinery 	 # of complaints on spillage from machinery by workers # of trucks' spillage through complaints and/or visual counts 	Contract or	Supervision Engineer/ PWA		
B. Noise emissions and increased levels of vibration from moving of construction	2	2	2	2	Moderate	 Community consultations will be carried out before commencing the construction activities, informing the nearby population regarding the construction activities and 	 # of consultations Implemented 	Contract or, Supervisi on Engineer	Supervision Engineer/ PWA		

¹² Separate table on monitoring of ESMP laying out items to be monitored, frequency of monitoring, and specific responsibilities (who in PWA or LGU or contractor for monitoring the different items) are shown in section 8.

machinery C. Dust emission (Air quality)	2	2	2	2	Moderate	 possible impacts such as noise and additional vehicular traffic. Select equipment with lower sound power levels Install suitable mufflers on engine exhausts and compressor components in cases where the service provider uses generators Provide fit to work PPEs (ear plug/earmuffs) for all workers involved in the areas with elevated noise levels The contractor should use equipment that is/are in good working condition and are periodically maintained No excavation or works shall be undertaken after 22h and before 07h Apply dust control measures during construction Reinstate the damaged infrastructures due to the installation of the pipelines in the main paved roads Site restoration Implement speed limit for the heavy machinery Cover trucks carrying soil, sand and stone with tarpaulin sheets to dust spreading 	 # of complaints by the project workers and community # of complaints on dust emissions % of use of dust masks by workers # of trucks covered 	, and PWA Contract or	Supervision Engineer/ PWA
D. Concration and	2	2	1	3		with tarpaulin sheets to dust spreading	Wasto management	Contract	Supervision
dumping of solid waste	2	2		3	Moderate	 Prepare and adopt waste management plan (WMP) including: Measures for waste separation Design and establishment of a central storage area for non-hazardous waste. 	 vvaste management plans available 	or	Engineer/ PWA

 Excavation waste and surplus construction material. Solid waste generated by construction labor, including food waste, Paper, plastic, glass, concrete, extracted soil. 						 Coordinate with and apply to local councils for collecting and disposal of domestic waste. Prioritize on-site reuse of excavated rocks and clay wherever feasible. Coordinate with local council and other concerned government agencies (e.g., MoLG) for disposing surplus excavated wastes and surplus construction material. Record the amount of waste disposed and maintain disposal/burial and transport receipts. 			
E. Temporary damage to existing septic tanks/cesspits	2	2	1	1	Low	 Repair the damage services in a timely manner for residents in coordination with the respective service provider Coordinate with community regarding the work plans that may lead to possible damage. Provide Coordination Log 	 # of septic tank/cesspit damaged # of GM cases filed Reporting shall include a copy of the Coordination Log 	Contract or	Supervision Engineer/ PWA
OHS risks	3	2	3	3	Substantial	 Apply all mitigation measures indicated in section 2 and WSRP LMP including: Identify potential risks to project workers including working at height. Prepare OHS plan in accordance with the WB Group EHS Guidelines. Provide appropriate PPE free of charge. Assign health and safety officer Provide OHS training to workers Prepare Emergency Response plan (ERP) 	 OHS plan and ERP prepared and implemented # of safety incidents # of GM grievances filed # and type, and timeliness in response 	Contract or	Supervision Engineer / PWA

T		l –	
			- Conduct daily and weekly health and safety
			meetings per week
			- For each dangerous substance (if any),
			implement the recommendations described
			in the Material Safety Data Sheets (MSDS).
			- Ensure that at least one certified first aid
			personnel is present at all times during
			working hours.
			- Ensure the provision of relevant insurances
			(in a accordance with relevant contract
			Provide personnel with drinking water at all
			Project Areas
			Project Areas.
			- Provide sanitary facilities at the project site.
			Sanitary areas are cleaned and disinfected by
			the Contractor's cleaning service.
			- Substance abuse: Implement a zero
			tolerance policy for the use, possession,
			distribution, or consumption of illegal drugs,
			and controlled substances (as per local
			regulations) and alcohol on the Project
			Areas.
			- Access to the Project Areas is prohibited to
			unauthorized persons. The Contractor is
			responsible for the security and access
			control of the Project Areas.
			- Ensure that warning signs are placed in highly
			visible and easily accessible locations near
			areas where potential hazards exist
1			

Working conditions:	2	2	2	2			- C-LMP is prepared	Contract	Supervision
Indiscriminate wages							based on WSRP LMP	or	Engineer/ PWA
and benefits							 # of child labor 		
Indiscriminate human							violations		
resources policies and							 # of grievances 		
procedures							lodged through the		
Non-discrimination							mechanism related		
and equal							to GBV/SEA/SH.		
opportunities:						 Develop and implement LMP based on 	 The average time 		
						WSRP LMP, which the contractors shall	taken to respond to		
						prepare specifically to the project	and resolve		
Working nours and						components and nature. All of the following	grievances related to		
leave;						items are comprehensively addressed within	GBV/SEA/SH.		
Child labor					te	the WRSP LMP and will be effectively	- The level of		
 Gender-based 					lera	mitigated by the implementation of this	awareness among		
violence (GBV) or					lod	ESMP:	workers regarding		
sexual exploitation					2	 Develop and implement a workers' 	the existence and		
and abuse (SEA) or						grievance mechanism including provisions	accessibility of the		
sexual harassment						for the handling of GBV/SEA/SH.	grievance		
(SA).						- Implement GBV/SEA/SH, and child	mechanism,		
Grievances application						protection training/awareness campaign for	measured through		
• OHS						the contractors' staff.	surveys or feedback.		
							- Assessment of the		
•							grievance		
							mechanism's		
							effectiveness in		
							collecting feedback		
							and suggestions		
							from workers for		
							improvements in		

									addressing GBV/SEA/SH issues.		
 4. Community Health and Safety: construction labor Emissions of gaseous pollutants and dust Increased noise levels Waste accumulation in illegal dumping sites Loss of mobility and accessibility to individual land/asset (temporary). 	2	2	2	2	Substantial	•	Mitigation measures indicated for: B. Noise emissions and increased levels of vibration from moving of construction machinery, C. Dust emission (Air quality), and D. Generation and dumping of solid waste are relevant to community health and safety and the measures are the same as mentioned above. Safety Measures for Pipeline Trenches: Implement trench protective systems, such as shoring, sloping, or trench boxes, to prevent trench collapses and protect workers inside the trench. Conduct daily inspections of the trench and surrounding area for signs of instability, and address any issues promptly. Clearly mark the perimeter of the trench with warning signs and barriers to prevent unauthorized access. Provide thorough safety training to all workers involved in trenching activities, emphasizing the importance of safe practices.	•	 Same as for B, C, and D above Coordination Activities # of GM cases filed 	Contract or	Supervision Engineer/ PWA

						٠	Safety Measures for Excavation Near			
							Houses:			
						٠	Continuously monitor the condition of			
							nearby houses during excavation. Any			
							signs of movement or damage should be			
							immediately addressed.			
						•	Create safe pedestrian walkways adjacent			
							to construction zones, ensuring they are			
							clearly marked.			
						•	Use vibration monitoring equipment to			
							ensure that excavation activities do not			
							cause excessive ground vibrations that			
							could affect nearby structures.			
						•	Notify residents in advance of excavation			
							activities, explaining the potential impacts			
							and safety measures being taken. Encourage			
							them to report any concerns promptly.			
						•	Avoid impacts through identification of			
							alternatives			
						•	Ensure access to GM			
						•	Implement SEP			
						•	Provide Coordination Log			
Community cofoty risks	2	2	2	2				TMD is propored	Contract	Supervision
Community safety risks	2	2	2	2		•	Prenare Traffic management plan as part of	- TIMP is prepared	or	Supervision Engineer/PWA
(accidents and trainc					ntia	-	the C-ESMP including use of appropriate	- # UI SIGIIS available	0.	
interruption).					star		signage barriers public outreach to provent	# of sites used		
• Excavation and					Sub		signage, particles, public outreach to prevent	- π of sites used harriers and safety		
Construction activities							public contact with potentially dangerous	tanes		
	1		1	1				tupes .		

• Use of equipment						equipment while working close to populated	- # of traffic incidents		
						areas and other occupied areas			
(Creavators,						Close the working site with construction			
machinery) which can						- Close the working site with construction			
cause injuries to local						barriers and safety tapes where applicable			
community						- The Contractor shall not disturb or interfere			
						with the inhabitants of local communities			
						close to or in the project area, and shall			
						respect their houses, cultures, animals,			
						properties, customs and practices.			
						- Reinstate any accidental damage to existing			
						structures and private property caused by			
						construction activities.			
5. Land use and	2	2	2	2		- All project related vehicle traffic, parking,	 # of GM cases filed 	Contract	Supervision
Ownership						construction activities, and equipment		or	Engineer/ PWA
						storage will be restricted to existing roads.			
					Ite	project access roads, and construction			
					O)	[···]·····			
					er	areas. Private land shall not be utilized for			
					loder	areas. Private land shall not be utilized for such purposes upless a written agreement			
					Moder	areas. Private land shall not be utilized for such purposes unless a written agreement,			
					Moder	areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the			
					Moder	areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner			
C Disturbance to on		2	1	1	Moder	areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner.	Track and record on	Contract	Supervision
6. Disturbance to or	2	2	1	1	Moder	areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner.	- Track and record any	Contract	Supervision
6. Disturbance to or displacement of faunistic	2	2	1	1	/ Moder	areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner.	- Track and record any incidents or	Contract or	Supervision Engineer /
6. Disturbance to or displacement of faunistic species during site	2	2	1	1	-ow Moder	 areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner. Prohibit hunting by workers and protect all migratory birds in the project sites. 	 Track and record any incidents or violations 	Contract or	Supervision Engineer / PWA
 Disturbance to or displacement of faunistic species during site excavation and 	2	2	1	1	Low Moder	 areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner. Prohibit hunting by workers and protect all migratory birds in the project sites. 	 Track and record any incidents or violations 	Contract or	Supervision Engineer / PWA
6. Disturbance to or displacement of faunistic species during site excavation and construction.	2	2	1	1	Low Moder	 areas. Private land shall not be utilized for such purposes unless a written agreement, specifying compensation or usage fees, is mutually agreed upon in advance by the property owner. Prohibit hunting by workers and protect all migratory birds in the project sites. 	- Track and record any incidents or violations	Contract or	Supervision Engineer / PWA

7. Chance Finds	2	2	1	1	Low	- Implement Chance Find Procedures	 # of Chance find procedures implemented 	Contract or	Supervision Engineer/ PWA
8. Socio-economic impact	1	3	1	1	moderate	 Engage in continued dialogue with the vendors to better understand their specific concerns and the potential impacts on their livelihoods. Conduct an impact assessment to assess the exact effects of the Water Distribution System (WDS) construction on their businesses. Preliminary ToR is included in the annex Prepare, as part of the impact assessment, mitigation measures to address any impacts on private vendors, assess the compensation costs, and initiate implementation of the plan prior to the start of the construction activity and complete if prior to the start of operation of the system 	 Number of dialogue sessions conducted with vendors per month/quarter. Completion of the impact assessment report within the specified timeframe indicated in the impact assessment report. 	PWA	PWA
9. Impact on water supply quality	2	3	2	2	Moderate	 Produce and implement O&M plans and manuals for all project components and assign the parties responsible for maintenance activities. Train operators of the reservoir and the pumping station constructed under this project to comply with O&M procedures Supply water to consumers fairly and uniformly so that the water service will be 	 Operation and Maintenance plans are prepared and implemented # of training for operators Program of water distribution and tariff system is in place 	PWA	PWA

						 available to all projected population, at the same tariff structure. Inspect storage facilities regularly and rehabilitate or replace storage facilities when needed. This may include draining and removing sediments, applying rust proofing, and repairing structures Test water quality Implement best practices to prevent corrosion, Prevent cross-connections with sewerage systems 	 Number of complaints registered on tariff structure and water available Inspection and testing program are prepared and implemented # of water samples and test results in compliance with national regulations and WHO standards 		
12. Social exclusion	2	2	1	1	Low	 Implement SEP Continuously identify any marginalized groups in the sub-project area. Use innovative communication means to reach the communities with information on the project. Disseminate info about GM in the communities. Apply local languages in Communication Implement the GM 	 Ensure that activities outlined in the SEP are progressing according to the established timeline. Measure the level of engagement and satisfaction of stakeholders affected by the project through surveys or feedback mechanisms. Track the resolution of grievances raised 	LGUs/P WA	PWA
							 by stakeholders and ensure they are addressed in a timely and satisfactory manner. # of Marginalized communities assessed Local languages used in communication 		
--	---	---	---	---	-----	--	---	--------------------	------------------------------
13. Social resistance for water Tariff,14. Affordability and willingness to pay	2	2	1	1	Low	 Plan for awareness campaigns that give people more understanding and awareness of their responsibilities towards sustainability of water resources. Ensure financial sustainability by commitment of citizens to pay their water bill fees; primarily by awareness campaigns and secondly by rule-of-law. Categorize the community according to affordability to pay Arrange for government subsidies for non- affordable categories (where applicable) 	 # of awareness campaign conducted Bill collection rate Communities categorized Amount of governmental subsides (if applied) 	LGU	PWA
15. Risks of GBV/SEA/SH	2	2	1	1	Low	 Implementation of LMP (including CoC) Provide information for access to GM for GBV/SH cases 	 Workers sign CoCs the availability of clear and accessible information related to reporting GBV and SH cases, including the presence of 	Contract or/PWA	Supervision Engineer/ PWA

							posters, brochures,		
							or digital resources		
							in common areas.		
							- The number of		
							reported GBV and SH		
							cases over a specific		
							period, reflecting the		
							willingness of		
							individuals to come		
							forward.		
							- The percentage of		
							reported GBV and SH		
							cases that were		
							successfully resolved		
							or addressed,		
							including the		
							satisfaction level of		
							the individuals		
							involved.		
Ou susting Disease (The law					. /				
Operation Phase (The Isra	aell	wate	r con	npany	у (імек	orot) will employ chlorine disinfection for the wa	iter treatment process, wi	th no chemi	cals being
utilized by PWA.)									
	2	2	1	1		 Regular inspection to detect any possible 	- Spill or leakage of	LGU/PW	PWA
						leaks.	chemicals and/or	A	
Soil and Groundwater					No	- Regular inspection of the waste storage	wastewater		
						area.			
						- Regular inspection of septic tanks			
						- Review waste disposal records		<u> </u>	
Air Quality	2	2	1	1	Ň	 Exhaust emissions from standby generators 	- Carbon monoxide,	LGU/PW	PWA
					Ľ		Sulphur dioxide,	А	

Noise from numping	2	2	2	2			Nitrogen oxides and total hydrocarbons	IGU/PW	PWA
stations		L			Moderate	 Replace and maintain noise muffling equipped or other used acoustic reduction technologies as needed. Confirmation of expected noise levels from pumps against safe working levels 	noise muffling equipment - Measures are in place	A	
Impact on Water Supply Quality	2	3	1	2		 Produce and implement O&M plans and manuals for all project components and assign the parties responsible for maintenance activities. Train operators of the reservoir and the pumping station constructed under this project to comply with O&M procedures Supply water to consumers fairly and uniformly so that the water service will be available to all projected population, at the same tariff structure. Inspect storage facilities regularly and rehabilitate or replace storage facilities when needed. This may include draining and removing sediments, applying rust proofing, and repairing structures Test water quality Implement best practices to prevent corrosion, Prevent cross-connections with sewerage systems 	 Operation and Maintenance plans are prepared and implemented # of training for operators Program of water distribution and tariff system is in place Inspection and testing program are prepared and implemented # of water samples and test results in compliance with national regulations and WHO standards 	PWA	PWA

OHS	2	2	1	2	Moderate	 Regular reporting of any incidents, as well as records and reports on workers' safety and health. Regular inspection of performance of general safety and protection equipment. Continuous monitoring of all hazardous events. Regular inspection of workers against pathogens and provision of immunization when needed. 	 -Using of PPEs -Number and type of accidents, injuries and diseases 	LGU/PW A	PWA
Community Health and Safety	2	2	1	1	Low	 Regular reporting of complaints records. Record minutes for various meetings and sessions. Continuous monitoring of all emissions reduction activities. 	Number and type of accidents -Number and contents of complaints Number of meetings with adjacent communities	LGU/PW A	PWA
Solid waste	2	2	1	1	Low	 Review of statements and receipts Regular inspection of the waste storage areas and sites in general to determine the random disposal of waste. 	 Solid waste accumulation 	LGU/PW A	PWA
Generating more wastewater: - Contaminating soils, wadies, and groundwater	2	2	1	2	Moderate	 Conduct public awareness campaign through flyers, mass media, public meetings or workshops, or the local council to: During operation, in the short term absent of the local wastewater networks, PWA and village councils should cooperate in 	 # of conducted pre- campaign inception survey and periodic surveys of project area households to assess: 	LGU/ PWA	PWA

- Posing public health	designating safe wastewater disposal	- Wastewater disposal
risks	locations, and requiring that vacuum tankers	facilities and practice
	dispose effluent only in designated safe	Number of designated
	locations.	safe wastewater
	- In place of cesspits, PWA and village councils	
	should enforce and foster use of septic tanks	
	that provide for primary anaerobic	established.
	treatment of wastewater and discharge into	Percentage of vacuum
	subsurface leach fields, or are evacuated and	tankers complying
	the effluent discharged to designated safe	with disposal in
	wastewater disposal locations	designated safe
		locations.
	- In the short and medium terms, the PWA	Number of cesspits
	should raise funds to construct wastewater	replaced with septic
	collection and treatment systems. Collective	tanks.
	and decentralized systems should be	Percentage of
	encouraged.	households using
	- In the long term, development and	sontis tanks and
	implementation of the West Bank	proper discharge
	Wastewater Strategy and master plans for	proper discharge.
	wastewater management are essential to	Amount of funds
	begin addressing the risk of exceeding the	raised for wastewater
	capacity of the existing wastewater	collection and
	infrastructure, and preclude risks to human	treatment.
	health or unacceptable adverse effects on	Number of
	the natural environment.	implemented
		collective and
		decentralized
		systems.
		, Progress in developing
		and implementing the
		West Bank
		WESLDAIK

							Wastewater Strategy and master plans.		
GBV/SEA/SH	2	2	1	1	Low	 Regular reporting of complaints records. Interview of adjacent communities Access to GM for GBV/SH cases 	 Number and contents of complaints 	LGUs / PWA	PWA

9 ESMP Budget

The costs of mitigation measures in the ESMP are provided in table 9.1 below.

Table 9.1: ESMP Budget (for all communities)

Activities	Quantity	Unit Rate \$/month	Total USD	Responsibility	
ESMP Implementation (construction phase): Contractor	E&S Officer Estimated level of effort = 14 months	1800	25,200	Contractor	
- Contractor's OHS Officer	OHS Officer Estimated level of effort = 14 months	1800	25,200	Contractor	
ESMP implementation and follow up (construction phase) activities	, Daily (construction)	To be included in the contractor unit price for each activity	, contra ctor unit price	. Contractor	
ESMP supervision (construction phase): Supervision Engineer (ESHS Officer)	(Estimated level of effort = 9 months)	1800	16,200	Supervision Engineer	
Consultation sessions in line with the requirements of the project SEP.	6	This will be part o of the supervision	f the TOR Engineer	 PWA/Supervisio n Engineer 	
 Training sessions for contractors on: OHS, Waste management plan, ERP, and other site specific plans Awareness raising for the work force about codes of conduct, GM, child labor, etc. 	 Part of Contractor's E& 	uties	. Contractor		
ImplementationofspecificmanagementplansincludingOHSP,WMP, CFP, ERP	. Lump sum		15,000	. Contractor	
Subtotal			81,600		
Other activities					
Information disclosure (including media). These activities will be conducted in line with the project SEP.	, 1	, 1000	1,000	. PWA	
Environmental orientation Seminars to stakeholders and local public (formal and informal)	1	. 500	500	PWA/Supervisio n Engineer	
Subtotal 2			1,500		
Contingency			3000		
Total (USD)			86,100		

10 Contractual commitment and management of contractors

10.1 Environmental and Social Clauses for Contractors

PWA will incorporate standardized environmental and social clauses in tender documentation, so that potential bidders are aware of environmental and social performance requirements expected from them. In this case, the bidders will be able to reflect that in their bids and are required to implement the clauses for the duration of the contract. These clauses cover four issues:

- 1. Environment, Social, Health and Safety (ESHS),
- 2. Environmental and social monitoring by contractor,
- 3. Environmental and social liabilities, and
- 4. Grievance mechanism.

The ESMP will be included in the bidding documents, and contractors will be responsible for implementing E&S mitigation measures and plans outlined in the ESMP, along with relevant E&S instruments for the project. Contractors must ensure that qualified staff with ESHS expertise are involved in construction, fulfilling E&S reporting requirements (refer to Procedures for Management of Contractors Annex in the WSRP ESMF's)¹³. The bidding document will mandate the inclusion of E&S and OHS Officers in the contractor team, with CV submission for qualification based on project risks. The Supervision Engineer will oversee implementation, monitor progress, and report to PWA. A Prebid meeting will clarify environmental and social assessment, mitigation measures, and management plans. The monitoring and reporting mechanism will be discussed, and the cost of mitigation and monitoring activities will be part of the project contract.

10.2 The Contractors Duties and Responsibilities

The contractor must comply with the project's E&S instruments and the ESMP. To integrate E&S standards effectively, the Contractor should adopt this ESMP and prepare a comprehensive Contractor's Environmental and Social Management Plan (C-ESMP) considering all ESHS aspects. The Contractor must identify and comply with all relevant environmental and labor regulations in its C-ESMP. During construction, the contractor must implement the construction-related mitigation measures listed in this ESMP and C-ESMP, while the Supervision Engineer monitors their implementation. Both parties are responsible for informing and coordinating with relevant stakeholders in their respective mandates.

Subcontractors and primary suppliers: The ESMP applies to the Contractor and all Sub-contractors and primary suppliers used for the execution of the Works. The Contractor is fully liable for all actions, non-compliance and negligence by Subcontractors, their representatives, employees and workers, to the same degree as it would be held liable for its own actions, non-compliance or negligence or that of its own representatives, employees or workers.

¹³ Environmental and Social Management Framework (ESMF) .pdf (pwa.ps)

10.3 Resources allocated to ESHS management:

10.3.1 ESHS Personnel: E&S Officer and OHS Officer

The contractor shall designate E&S and OHS Officers in accordance with the contract requirements. This individual(s) shall have good knowledge and experience of environmental and social issues that are included in ESMP Table 8.1.

The E&S Officer and OHS Officer are based at the Project Area for the full duration of the Works as of Contractor's mobilization until Taking-Over Certificate is issued. These officers hold the power within the Contractor's organization to be able to suspend the Works if considered necessary in the event of level 2 or 3 non-conformities as explained later in this document, and allocate all resources, personnel and equipment required to take any corrective action considered necessary.

10.3.2 First Aid Service:

Certified personnel shall be available and equipped with the necessary material, medicines and consumables to provide first aid at the construction site. The personnel shall be responsible to stabilize the patient/injured workers condition until the patient is evacuated to a medical center/hospital, if necessary.

10.3.3 Coordination with Project Stakeholders:

The Contractor must designate a responsible person for engaging with external stakeholders, such as local communities and administrative authorities. This individual will be introduced to the relevant parties at the beginning of the project, and contact information will be provided for any issues or concerns that may arise during the project's execution. Additionally, the team, including the E&S Officer and OHS Officer as mentioned above.

10.4 Contractor's Responsibilities and Liabilities

ESHS Planning and Management:

Contractors Environmental and Social Management Plan (C-ESMP):

Before commencing the work, the contractor must submit a Contractor Environmental and Social Management Plan (C-ESMP) to the Supervision Engineer for approval. The C-ESMP will outline the contractor's compliance with ESHS requirements, demonstrate adequate budget and capacity for overseeing, monitoring, and reporting C-ESMP performance, and include specific mitigation measures based on the project's environmental and social management plan, final design, work method statements, and project site conditions. The Contractor shall prepare and validate the C-ESMP in consultation with the Engineer within 28 days of the Contract Agreement's execution. No physical work can begin in any Project Area until the corresponding C-ESMP for that area is approved by the Engineer. The Contractor shall update the C-ESMP as instructed by the Engineer during the Works execution, highlighting any new elements incorporated in the revised version.

Site-Specific Plans:

The construction Contractor must develop and implement site-specific plans to manage environmental and social impacts during construction, in addition to implementing measures outlined in the ESMP. These plans include:

Pollution Prevention Plan: will be prepared and implemented by the contractors on the basis of WBG EHS Guidelines (1997).

Waste Management Plan (WMP): WMPs will be prepared and implemented by the Contractor on the basis of the ESMP, and WBG EHS Guidelines (1997).

Occupational Health and Safety (OHS) Plan: will be prepared and implemented by each contractor on the basis of the WBG EHS Guidelines (1997), national standards and requirements and OSHA standards.

Work place safety plan: will be prepared and implemented by contractor to ensure that work site are well delineated during works (to keep people from accessing the work site), on the basis of the WBG EHS Guidelines (1997), national standards and requirements and OSHA standards.

Traffic Management Plan (TMP): TMP will be prepared and implemented by the contractors on the basis of the ESMP recommendations. The Plan will be submitted to the Supervision Engineer for review and approval and the relevant authorities. Construction works on site shall not commence before implementing the approved traffic plans.

Contractor LMP: Contractor LMP will be prepared and implemented by the contractors on the basis of the WSRP LMP. The Plan will be submitted to the Supervision Engineer and PWA for review and approval prior to commencement of the work.

Emergency Response Plan (ERP): ERP will be prepared by each contractor after assessing potential risks and hazards and political situation and security emergencies that could be encountered during construction. The Plan will be submitted to the Supervision Engineer for review and approval. Contractor shall prepare and submit Security Emergency Plan: The plan describes the various security measures and emergency communication protocols necessary to maximize personal wellbeing and safety during the security emergency situation.

The Contractor's plans will be reviewed and approved by Supervision Engineer and PWA before construction starts. These plans serve as reference documents, detailing the provisions implemented to fulfill ESMP obligations throughout the contract period, until the issuance of the Performance Certificate by the Engineer.

The contractor's responsibilities and liabilities relevant to ESHS planning and management are detailed below:

10.4.1 Environmental, Social, Health & Safety (ESHS):

The C-ESMP should identify and specify all ESHS risks related to the execution of the Works, including gender-specific risks, and provide prevention and protection measures to control these risks. It should also outline the human and material resources involved, identify Works requiring work permits, and include emergency plans in case of accidents or security events.

Atmospheric emissions and dust: the Contractor must use equipment and construction methods that comply with threshold emission values in applicable regulations. Proper maintenance of machinery emitting combustion gases is essential, and records of maintenance should be documented. Dust control measures, such as watering and surface covering, must be implemented on unpaved roads and during bulk material handling in open-air areas.

Noise and vibration should be controlled by using equipment and construction methods that do not exceed recommended noise levels. High noise works impacting receptor areas should be restricted to normal working hours.

Waste management: the Contractor is responsible for identifying, collecting, transporting, and treating all waste produced on the Project Areas. Waste hierarchy principles must be followed, and waste incineration is prohibited on the Project Areas.

Erosion and sediment transport should be minimized by careful planning of earthworks and stockpiles. Topsoil should be preserved and stored for future rehabilitation, and measures to protect against erosion must be implemented. The rocks and excavated materials shall not be dumped in local wadis.

Medical check-ups and first aid provisions are necessary to ensure the health and safety of personnel on the Project Areas. Adequate medical personnel and facilities should be available, and first aid equipment must comply with approved specifications. A written medical certificate is issued for Contractor's Personnel upon returning to work after leave caused by a work-related accident and shall be made available to the Supervision Engineer for record. Information on emergency contact list and first aid services is clearly indicated at the project areas.

Equipment and operating standards

The Contractor describes in the C-ESMP the PPE (types and quantity) to be used per Project Area and per activity and ensures that all personnel, visitors or third parties entering a Project Area are equipped with appropriate PPE. Furthermore, the facilities and equipment used by the Contractor are installed, maintained, revised, inspected and tested pursuant to the manufacturer's recommendations.

The Contractor should also consider **labor conditions (i.e hygiene, safe drinking water, and appropriate sanitary areas, necessary insurance to cover the cost of the sanitary repatriation), biodiversity, protection of adjacent areas, preservation, and the selection of borrow areas and access roads within the C-ESMP.** Information and awareness training regarding response to emergency situation shall be documented.

Traffic Management: A TMP shall include the type of construction work that will take place; the construction site's location, the expected traffic volume and traffic control measures, a diagram of the construction site and proposed traffic flow, and the contact information for the entitled personnel. The TMP shall also outline measures to manage traffic flow safely around the construction site, including road closures, detours, lane closures, traffic signs, cones, and barricades. The plan must be approved by relevant authorities and include speed limits according to national laws and approved traffic plans. Regular inspections of roads used by vehicles are necessary to ensure compliance with safety measures.

10.4.2 ESHS Training:

The Contractor is responsible for preparing a monthly training and capacity-building program for its personnel, which should be documented in the ESHS activity report. The training program must include actions and ESHS training for subcontractors and joint venture members, where applicable. The training should cover the following minimum topics: rules of procedure, ESHS rules in the project areas, identification of main risk sources for construction activities, knowledge of C-ESMP and site-specific plans (OHS, TMP, WMP, ERP, etc.), chance finds procedure, internal grievance mechanism for

workers, and awareness on GBV/SEA/SH. Additionally, toolbox meetings and first aid training are essential components of the training program.

10.4.3 Rules of Procedure and CoC:

The Contractor should establish Rules of Procedure for the Project Areas, addressing safety, zero tolerance for substance abuse, environmental sensitivity, gender issues, and community relations. These rules are visibly displayed at various Project Areas and confirm the Contractor's commitment to implementing ESHS provisions. All Contractor's Personnel, both new and existing, are made aware of and acknowledge these rules before commencing any physical work. The document is initialed by all Contractor's Personnel. The Rules of Procedure also include a list of acts considered as serious misconduct, leading to dismissal from any Project Area. The misconduct includes drunkenness, drug use, sexual harassment, violent behavior, damage to assets and the environment, negligence leading to harm, possession of endangered species, and non-compliance with labor laws. The Contractor maintains records of each case of serious misconduct, documenting actions taken to address it, and provides these records to the Engineer as part of the ESHS activity report. The CoC for the project is included in the project LMP.

10.4.4 Documentation on the Project Area condition

The Contractor must document the condition of all Project Areas from the start of Works until the Performance Certificate is issued including pictures of houses that may be present close to excavation works. Documentation should include dated and geo-referenced color photographs taken from a constant angle and viewpoint. Minimum documentation stages are:

- a) Before any disturbance to the Project Area at the start of works;
- b) Upon completion of Works;
- c) Upon completion but before issuing the Taking over Certificate;
- d) After the end of the Defects Notification Period and before issuing the Performance Certificate.

Photographic documentation should also include adjacent areas within 50 meters from the perimeter of the Project Area. For buried structures, weekly photographs are required until covered. Structures with Works lasting less than 7 days should be photographed at least twice, while those with longer durations should be photographed at least once a week.

10.4.5 Monitoring indicators:

A "monitoring indicators" table is to be provided to potential contractors. This table shows the monitoring stages required to conform to the principles and procedures laid down in the national environmental legislation during the supply, installation, and operation activities of the proposed sub-project.

Table 10.1: monitoring indicators

Monitoring indicators	ACCOUNTABLE FOR	Supervision/Frequency/ Method DIRECT SITE VERIFICATION	Monitoring/Frequency
Contracted workers / without regular contracts	Contractor	PWA, weekly inspection	Weekly
Contracted workers without insurance coverage	Contractor	PWA/weekly inspection	Weekly
Child Labor/Forced Labor	Contractor	PWA Daily walk over & weekly inspection	Weekly
Number of workers not adequately equipped with safety PPE	Contractor	PWA/ Daily walk over & weekly inspection	Weekly
Number of incidents and accidents that have resulted in moderate or low injuries.	Contractor / LGU/ PWA (Operation)	PWA/ Daily records	Weekly
Number of incidents and accidents that have resulted in serious injuries. WB task team to be informed within 48 hours as per provisions of ESCP.	Contractor / LGU/ PWA (Operation)	PWA/ Daily records	Weekly
Number of near misses	Contractor	PWA/Daily records	Weekly
Received number of complaints related pollution/noise/dust/etc	Contractor LGU/ PWA	PWA/ Weekly	Weekly
Number of consultation and level of inclusion of various stakeholders	Contractor/ LGU/ PWA	PWA/ Weekly	
Unrepaired damage to existing utilities and properties	Contractor	PWA/ Daily walk over & weekly inspection	Weekly
Non compliances with WMP/ OHSP/ and TMP	Contractor	PWA/ Daily walk over & weekly inspection	Weekly
Engagement with commercial activities	Contractor / LGU/ PWA	PWA/as per stakeholder engagement section	Weekly
Air and Soil contamination / Spillage of chemicals / uncontrolled dumping of solid waste	Contractor	PWA/ Daily walk over & weekly inspection	Weekly
SEA/SH/GBV complaints ¹⁴	Contractor	PWA/ Daily walk over & weekly inspection	Weekly
Emergency response time (if any)	Contractor	PWA/Daily	Weekly
Impact on water supply quality	PWA during operation	PWA/Daily	Daily

¹⁴ Bank team to be informed within 48 hours

Generating more wastewater	LGU/ PWA	PWA/Monthly	Monthly
Socio-economic impact	LGU/ PWA	PWA/Monthly	Monthly
Social exclusion	LGU/ PWA	PWA/Monthly	Monthly
Social resistance for water Tariff	LGU/ PWA	PWA/Monthly	Monthly
Affordability and willingness to pay	LGU/ PWA	PWA/Monthly	Monthly

10.4.6 Inspections and monitoring of compliance:

In addition to the ESHS personnel own inspections, an ESHS inspection will be carried out on the facilities and Project Area jointly with the Supervision Engineer. A written report will be drafted for each inspection, in a format approved by the Supervision Engineer, addressing non-conformities detected on the Project Area as specified in the ESMP (each non-conformity will be documented by a digital photograph with captions to provide a visual illustration, explicitly indicating the location, date of inspection and the non-conformity in question), as well as actions and corrective measures implemented. The inspection report is subject to approval by the Supervision Engineer.

10.4.7 Management of non-conformities:

Non-conformities detected during inspections carried out by the Contractor or the Supervision Engineer are subject to a process adapted to the severity of the situation. The non-conformities will be defined as deviations from the requirements of the applicable regulations, the ESMP, and the E&S instruments of the project. Non-conformities are divided into 4 categories as follows:

- <u>Notification of observation of minor non-conformities</u>. The non-conformity results in a notification to the Contractor's Representative, followed-up by a signed notification of observation prepared by the Supervision Engineer. The multiplication of notifications of observation at the Project Area, or absence of corrective actions by the Contractor, can result in the severity of the non-conformity being raised to that of level 1.
- 2. Level 1 non-conformity: Non-conformities that present a moderate and non-immediate risk for health, environment, social or safety. The non-conformity is identified in writing to the Contractor and shall be resolved within five (5) days. The Contractor addresses to the Supervision Engineer the proof explaining how the non-conformity has been corrected. Further to an inspection and a favorable evaluation of effectiveness of the corrective action, the Supervision Engineer validates in writing the close-out for the non-conformity. In all cases where a non-conformity of level 1 is not resolved within one (1) month, the severity of the non-conformity is raised to level 2.
- 3. <u>Level 2 non-conformities</u>: applies to all non-conformities that represent a moderate and immediate risk or with significant consequences to health and/or the environment, social or safety. The same procedure as for level 1 non-conformities is applied. Corrective action shall be taken by the Contractor within three (3) days. All level 2 non-conformities which are not resolved within one (1) month, are raised to level 3.
- 4. <u>Level 3 non-conformities</u>: applies to all non-conformities that have resulted in damage to health or the environment, or which represent a high risk for health, safety, environmental or social hazards. The highest levels of the Contractor's and the Supervision Engineer's hierarchies are informed immediately and the Contractor has twenty-four (24) hours to bring the situation under control. A level 3 non-conformity results in the suspension of interim payments until the non-

conformity has been resolved. If the situation requires, the Supervision Engineer can order the suspension of work until the resolution of the non-conformity.

10.4.8 Notification of ESHS events:

The Supervision Engineer is informed within one hour of any accident, (i) involving serious bodily injury to a member of personnel, a visitor or any other third party, caused by the execution of the works or the behavior of the personnel of the Contractor, or (ii) any significant damage to private property, or (iii) any significant damage to the environment.

The Supervision Engineer is informed as soon as possible of any near-accident relating to the execution of the Works which, in slightly different conditions, could have led to bodily injury to people, or damage to private property or the environment.

10.4.9 Reporting

1. Incident and Accident Reporting

The contractor shall submit to the Supervision Engineer details of any accident as soon as practicable after its occurrence and, in the case of an accident causing serious injury or death shall inform the Supervision Engineer immediately. The contractor shall, as stated in the specifications and as the Supervision Engineer may require (incompliance with the applicable health and safety regulations and Laws) concerning the health and safety of persons and any damage to property.

The Contractor shall inform the Supervision Engineer immediately of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, employer's personnel, or contractor's personnel, subcontractor's personnel, and supplier's personnel. This includes but is not limited to any incident or accident-causing fatality or serious injury, significant adverse effects or damage to private property or any allegation of GBV, SEA and/or SH.

The report shall be submitted to the Supervision Engineer within 24 hours and not longer than 48 hour of the incident/accident. These reports shall be submitted immediately to the World Bank TTL. In case the incident/accident encounters medical or police investigation, the medical and/ or police reports shall be submitted to the Engineer on a timely manner.

2. Regular Reporting

The Contractor is required to submit a monthly ESHS activity report to the Engineer, separate from the C-ESMP update. The report should be submitted no later than 7 working days after the end of each month and should include the following information:

- List of ESHS personnel at the Site.
- Summary of construction activities conducted during the month.
- Details of ESHS measures implemented during the month for the construction works.
- Records of inspections carried out, including locations and intervals.
- Description of any non-conformities detected, along with root cause analysis and corrective actions taken.
- Measures taken to manage environmental, social, health, and safety risks and impacts.
- Stakeholder engagement activities with neighboring populations, local authorities, and agencies.
- Monitoring indicators according to the ESMP matrix (Table 8.1).

- Incident and Accident reporting, if any, as an annex to the ESHS activity report.
- Monthly record of all personnel and workers at the project site, including their details as per the project's ESMP.
- Waste management manifests/log.
- GM Log containing details of formal or informal complaints related to ESHS risks and impacts, along with actions taken.
- Report on training activities, including topics, number of sessions, and participants.
- Planned environmental, social, health, and safety actions for the upcoming months.

10.4.10 Operation and Maintenance Phase

Mitigations measures in the ESMP during the operation phase are not within the scope of the contractor's work.

11 Regular Monitoring, Inspections and Reporting

The PCU and Supervision Engineer will handle main monitoring and compliance responsibilities. The PCU Environmental and Social Specialists will assess compliance and report non-compliance to the Project Manager. Indicators in the ESMP table serve as progress baselines. Contractors will provide monthly ESHS reports to the Supervision Engineer. PCU integrates these reports into its quarterly progress reports to the World Bank. The World Bank will also supervise through reviews and regular missions. The GM tracks complaints and intervention effectiveness, providing summaries in the quarterly reports.

12 Stakeholder identification and Stakeholders Engagement Plan

A Stakeholder Engagement Plan (SEP) was prepared for the WSRP project during the preparation of the ESMF, and shall be applied in this Jenin NE villages subproject. Stakeholders including Project Affected Parties (PAPs), vulnerable and disadvantaged groups and Other Interested Parties (OIPs) have been identified in the SEP. The SEP describes consulting and engaging with stakeholders. The SEP will be continuously updated, specifically in accordance to the identified needs. All relevant information needs to be made available to relevant stakeholders in a timely manner.

During the preparation of this ESMP, further consultation sessions were conducted including Project PAPs, vulnerable and disadvantaged groups and OIPs.

12.1 Identification of main stakeholders:

According to the WSRP SEP document and for the purposes of effective engagement, stakeholders of the proposed subproject were divided into the following core categories:

- Project-Affected Parties (PAPs)
- Disadvantaged/Vulnerable Individuals or Groups
- Other Interested Parties (OIPs)

An overall overview of the project stakeholders is presented in the program's SEP prepared in 2022, cleared by the Bank and disclosed to the PWA website. The WSRP SEP can be found on the following link:

http://www.pwa.ps/userfiles/server/reports/WSRP_SEP.pdf

12.2 Stakeholder engagement and consultation results

Stakeholder consultation is an important element of the ESMP development process. It is important to collect, collate, and document the opinions of stakeholders to ensure that the project design and the ESMP are reflective of the collective views of the stakeholder base. Stakeholders should be effectively and inclusively engaged throughout the subproject lifecycle, and appropriate information should be disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner.

PWA defined a systematic approach to stakeholder engagement, wherein it builds and maintains effective relationships with the project stakeholders, communicates with them effectively, and includes a mechanism for people to express concerns, provide feedback, and complain about the project's activities. The involvement of the local population is essential to the success of the project in order to ensure smooth collaboration between the project staff and local communities, and additionally to minimize and mitigate environmental and social risks related to the proposed activities, which is considered a crucial component of the project's success, as the role of every stakeholder is important for the successful implementation of the project.

This document outlines the community engagement activities undertaken by PWA, which includes details of the tools and activities used to engage a broad range of stakeholders during March and April 2023, along with a summary of the key issues raised during the consultations.

In particular, as part of the preparation of the ESMP for the Construction of Northeast Villages Water Distribution System in Jenin, a number of consultation and information disclosure activities were conducted with the benefited communities and project stakeholders aiming at providing the local communities with details about the project scope and description, determine their level of awareness and increase their understanding of the potential Environmental and Social impacts and the responsive mitigation measures of the project. Furthermore, elaboration about the GM, as well as receiving their feedback, discussing their concerns, inquiries and/or recommendations in order to be considered while developing the ESMP.

PAPs, vulnerable groups, and OIPs (in line with the project SEP), were included in the consultation sessions. A summary of consultation activities, including the different categories of vulnerable groups and OIPs, is presented in Table 12.1 below. PWA representatives presented a brief description of the WSRP project's objectives, benefited communities, stakeholders, and elaborated on the project's design criteria, and the following main points were highlighted and discussed:

- The WSRP project will be funded by the WB and implemented by the PWA.
- The technical aspects of the project including the detailed design were prepared by a qualified consultant, reviewed by PWA in full coordination with the municipality of Marj Bin Amer to cope up with people demands up to 2047.
- Present and discuss the potential E&S positive and negative impacts and all necessary mitigation measures of possible E&S impacts of a project in accordance with the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation to minimize E&S impacts.
- The importance of stakeholder's engagement in the different project phases, Code of Conduct, GM with features to handle GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks.

- The project related information will be disclosed to public on the PWA's official website and on social media in both languages Arabic and English, during consultation sessions, and through LGUs to ensure stakeholders' engagement, increased awareness, and transparency.

Table 12.1: A summary of the consultation activities									
Stakeholders	Location	Date & Time	Participants	Key points raised/responses					
Deir Abu Daief Se	ession I	-							
Deir Abu Daief Community	Deir Abu Daief Village Hall	March 15, 2023 10:30- 12:00	 Local Governmental Units Representatives: Director; Marj Bin Amer Municipality Deir Abu Daief Village Council Local Community Representatives: Residents; Farmers; Landowners; Land users; Road users and encroachers (if any); Vendors (Service providers); Schools representatives; Business owners; and 	 PWA team presented the project's background, objectives, targeted communities, stakeholders, and elaborated on the design criteria. PWA also elaborated on possible positive and negative environmental and social impacts/risks of the project activities during different implementation phases. Participants appreciate all efforts made behind this important project. Participants were mainly interested in learning about the project detailed design, activities, beneficiaries and implementation timeframe, they also raised certain concerns and inquires as follows: The following notes and queries were collected: The source of water (whether it will be the wells of Deir Abu Daief or an external source for water supply to the area) and if the source is external what is the way to manage in cases of water cuts. The type of water use (drinking, irrigation, etc.) Would communities be required to participate in the capital cost of connection fees and the construction of reservoirs? Recommendation to implement a wastewater network project to consider the increase in wastewater production rates resulted by the increase in the supply of domestic water. Concerns was raised regarding the prices of the drinking water per m³ and beneficiaries' contribution fees. Concerns about delays that may occur in the construction phase and whether this will cause prolonged damages to the roads without restoring the situation, endangering people's livelihoods and hindering their daily activities. Monitoring of the construction activities and the quality of water. Is there any possibility that the project will be suspended or may the fund be withdrawn before the project completion? Recommendation to have the water supply networks of all the targeted communities to be interlinked in order to allow cooperation in cases of emergency or water cuts, etc. 					

	I		
		-	Would the project include all Area classifications, A, B and C as beneficiaries of
			the project s scope.
		-	Recommendation for using the social media in the project the project
			announcements and activities, as these tools are widely used in the area.
			Responses by PWA representatives were as follows:
		-	The source of water will not be the local agricultural wells of Deir Abu Daief, it
			will be Jenin Bulk Water Supply System (the original sources is purchased water
			from Mikorot connection point at Salem and AL Jalameh- managed by the
			WBWD) and will be supplied for domestic use only.
		-	The project will be funded by the WB and PWA is the implementing agency.
		-	The scope of the project will cover constructing water networks, reservoirs and
			related facilities in the unserved communities.
		-	The Palestinian tariff system will be used to calculate the contribution fees, prices
			of water per cubic meters, using unified tariff system.
		-	All necessary mitigation measures of possible E&S impacts of the project will be
			considered in accordance to the project-specific E&S instruments (i.e SEP, RF,
			LMP, etc.) and site-specific ESMPs which are under preparation.
		-	Besides, PWA will monitor the project's progress based on projects work plans
			and time schedules.
		-	The scope also covers the reinstatement works.
		-	Interlinking between the targeted communities water networks was considered
			where applicable.
		-	The construction activities and the quality of water will be frequently monitored
			and necessary tests will be regularly made to ensure compliance with quality
			standards.
		-	The project's design was developed by qualified consultant, after evaluating
			multiple different design alternatives to best fit the benefited communities
			objectives, the political situation, the area, demand, population increase, etc.
		-	The project related information will be disclosed to public on the PWA's official
			website and on social media in both languages Arabic and English to ensure
			stakeholders' engagement increased awareness and transparency
			stakenolaeis engagement, mereasea awareness, and transparency.

Deir Abu Daief Session II								
				PWA team presented the project's background, objectives, targeted communities, stakeholders, and elaborated on the design criteria. PWA also elaborated on possible positive and negative environmental and social impacts/risks of the project activities during implementation phase.				
				Participants expressed their gratitude to the WB for funding this vital project and their full support and willingness to cooperate to ensure successful completion of the project activities.				
Deir Abu Daief vulnerable categories	Focused groups meeting	March 26, 2023	Vulnerable categories Representatives: - Women; and People with special needs (Al Amal/Hope Society of Marj Bin Amer)	 The following comments were collected: A former women council member mentioned that Deir Abu Daief and the other communities have been waiting years for this vital project No concerns were raised related to health and safety issues or other negative impacts of the project during construction. Participants do not expect delays in works that may cause hinder or disrupt access to roads, if happen, cooperation between the community and the construction staff will facilitate and resolve the issue; furthermore, detours area available and could be used by cars and the residents during construction activities. The project will bring in vital advantages that make people ready to tolerate the minor construction negative impacts. A representative of people with special needs (Al Amal/Hope Society of Marj Bin Amer), stressed on the importance of timely reinstatement works as disabled people are more vulnerable for unsafe conditions under such circumstances. Representatives of women and people with special needs said that they are generally effectively engaged. Deir Abu Daief village Council is in very well cooperation with the community, therefore they are not concerned about inequitable provision of project benefits and or lack of meaningful engagement No concerns related to GBV/SEA/SH on women. No violence/SH/SEA is expected on people with special needs. 				
				Responses by PWA representatives were as follows:				

Beit Qad, Jalbo	un, and Arabuna	Communities		 The project has been designed to ensure effective engagement of all vulnerable categories in the different project phases. Mitigation measures of possible E&S impacts of the project will be implemented in accordance with the project-specific E&S instruments (i.e SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation . Codes of Conduct and a GM with features to handle GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks.
Beit Qad, Jalboun, and Arabuna	Marj Bin-Amir Municipality	March 15, 2023 12:30- 2:00	 Local Governmental Units Representatives: Director; Marj Bin Amer Municipality Village Councils Representatives. Local Community Representatives: Residents; Farmers; Landowners; Land users; Road users; Venders (Service providers); Businesses; and Women (residents and representatives of women societies) and people with disabilities; 	 PWA team presented the project's background, objectives, targeted communities, stakeholders, and elaborated on the design criteria. PWA also elaborated on possible positive and negative environmental and social impacts/risks of the project activities during different implementation phases. Participants expressed their gratitude to the WB for funding this vital project, their full support and willingness to cooperate to ensure successful completion of the project activities. Participants stated that the project will not only increase the amounts of domestic water supplied to the communities, protect their health and livelihoods, and improve their socioeconomic lifestyle, but will also aid in increasing the amount of water available for agriculture that was used to cover part of the domestic needs of the communities. People are looking forward to successful and fast implementation of the project. The following notes and queries were collected: Community representatives highlighted the importance of the timely implementation of the construction activities by the contractor. The source of water and whether it will be temporary or permanent! Continuous or intermittent? Requests to start or plan the construction activities without affecting the agricultural season, to minimize impacts on the agricultural crops.

	-	High willingness to cooperate for a successful implementation of the project.
	-	If certain disputes with local residents occurs, would the project be suspended?
	-	Concerns about the prices of the water per m ³ , beneficiaries contribution fees,
		and whether it would be affordable or not.
	-	Whether the design considers the population growth which will increase
		domestic water demand, and the future community's expansion.
	-	May prolonged delays happen during the construction which may affect daily
		activities of residents, land owners and road users?
	-	Recommendation to implement a wastewater network project to consider the
		increase in wastewater production rates resulted by the increase in the supply of
		domestic water.
	-	Inquiry about monitoring and supervising the quality of the construction activities
	-	Representatives of local water venders` requests to be considered in the planning
		for projects, and to have facilitation and support made to venders
	-	Is it possible to support the local water vendors by implementing solar energy
		projects that will decrease the cost of water extraction and pumping?
	-	The vendor should be engaged in the project as part of supporting their resilience
		(Since digging the wells is costly and risky what are the project benefits on
		vendors? can vendors be included as a source for water supply by sharing with
		them the required water quality standards and give them a priority over other
		sources?, noting that this may affect water prices. The cost may be higher than
		the purchased water.
		(wells are both for domestic and agricultural uses)
	-	Important to include Area C as a beneficiary of the project.
	-	Concerns about the Israeli occupation's violations to projects implementation in
		the area (Area C locations), similar to everywhere in the West Bank. Are there any
		measures considered to tackle the occupation violations? Are licenses received
		from the Israeli side to implement the components in area C?
	-	An owner of drinking water-tank truck whose current job is the hauling water to
		the unserved people, raised a concern about his future career and what are the
		alternatives proposed by the project to such loss of jobs and source of income.
		(Livelihood?)
	-	Does the project require local community's contribution in the capital cost of the
		project?

 The importance of supervising the tendering process and the careful selection of the contractors Is there a potential to dig new wells inside the targeted communities as a main source of water supply to ensure a continuous supply of water instead of depending on purchased / Israeli sources?
 Responses by PWA representatives were as follows: The source of water will be Jenin Bulk Supply (Mikorot connection point at Salem and AL Jalameh) and will be provided for domestic use only.
- The project will be funded by the WB
- PWA is the implementing agency
 The project's design was developed by qualified consultant, after evaluating multiple different design alternatives to best fit the benefited communities, the political situation, the area, demand, population increase, etc. The Palestinian tariff system will be used to calculate the contribution fees prices.
of water per cubic meter (m ³)
 All necessary mitigation measures of possible E&S impacts of the project will be considered in accordance to the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation.
- The construction activities and the quality of water will be frequently monitored and necessary quality tests will be conducted on regular basis to assure compliance with the design specifications and quality standards.
- All the required measures to ensure effective management and successful implementation of construction works will be considered by the implementing agency (PWA), this shall include coordination with the Israeli side through the relevant departments.
- PWA and the WB have specific procurement procedures for the tendering and the selection of contractors and consultants. These procedures will be
implemented in the project.
- Project information will be disclosed to the public on PWA's official website and
on social media in both languages (Arabic and English) to ensure effective
stakeholders` engagement, increased public awareness, and transparency.
- Codes of Conduct and a GM with features to handle GBV/SEA/SH related
complaints are established to prevent and mitigate GBV/SEA/SH risks.

				 The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful and sustainable project. All attempts will be made in cooperation with all relevant parties including the LGUs, police, civil defense, health centers, etc. in order to get grievances solved without affecting the project's progress.
Ministries and O	Government Age	ncies		
MoL	Virtual	April 3, 2023	MoL	 PWA team presented the project's background, objectives, targeted communities, stakeholders, design criteria and the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation to minimize possible E&S impacts. The following comments were collected: Important to comply with the requirements of the Palestinian Labor Law regarding the occupational health and safety requirements. The necessity of conducting medical examinations for the workers, (preliminary medical examination) which is usually carried out at the Ministry of Health directorate, with the aim of ascertaining the worker's fitness for work, as well as making sure that the worker does not suffer from previous occupational diseases that may affect his work in the project or to avoid future dispute for the cause of this disease. In the event that the project implementation period is more than two years, periodic checks will be made every once a year. The need to commit to providing workers with Personal Protective Equipment (PPEs), which varies according to work activities. The need for a Project Safety Officer or an occupational health supervisor to monitor compliance with safety procedures on site. The age of the labors / workers, the age of the worker should not be less than 18 years. Regarding the age of 15-18, it is considered a juvenile who is not prevented from work, but the type and nature of the work should not be in a remote (distant) place.

		- The need to provide first aid kits in the workplace, installation guidance and
		warning signs for workers and residents
		- The need to adhere to the minimum wage (not less than 1880 ILS per month)
		- Commitment to working hours (7.5 hours in addition to a 0.5 hour break, in the
		case of night work, the worker must not be the same as the one who worked
		during the day, and working hours are also reduced to 6.5 hours for night shift
		works).
		- Overtime compensation without exceeding the permitted hours
		- Commitment to official holidays according to the law (10 days January 1, May 1,
		November 15, 3 days of Eid al-Fitr, 4 days of Eid al-Adha)
		- In the event of emergency work in the official holidays – the worker should be paid
		150% of the ordinary daily wage.
		- A worker who continues to work for a year or more, is entitled to annual
		leave/Vacation of 14 days, and in the case of dangerous work, 21 days - (review
		the law regarding dangerous work, knowing that the type of work in the project is
		not classified as dangerous)
		- The need to ensure that there is insurance for workers to cover possible of injuries
		/ accidents (not talking about project insurance but special insurance for the
		workers).
		- In the event of a work injury / accident and in case of needing medical treatment,
		the special form from the Ministry of Labor regarding work injuries must be filled
		and should be sent to the Ministry of Labor as formal notification within 48 hours
		of the accident.
		_
		Responses by PWA representatives were as follows:
		- In addition to the brief introduction to the project scope, comments and
		activities, PWA thanks the MoL representatives for his feedback, important
		comments and recommendations.
		- The project will be monitored and supervised by PWA and the supervision
		engineer (Consultant),
		- All occupational health and safety measures will be considered, PPEs will be
		provided, the contractor should submit safety plan for the project.

		 The project will have a safety officer who will follow up compliance with safety measures PWA informed elaborated about the developed project GM Other site coordination meeting will be conduct with the MoL before construction works on site PWA requested MoL to nominate a representative to follow up and coordinate with during construction phase - two specialists with mobile numbers have been nominated
		PWA team presented briefly the project's background, objectives, targeted communities, stakeholders, design components and the developed E&S instruments (i.e SEP, RF, LMP, etc.) and site-specific ESMPs are under preparation to minimize possible E&S impacts
April 4, 2023	MoLG	 The following comments were collected: MoLG role is to ensure compliance with the laws and legislations of the land acquisition (if any) for the reservoirs and pimping stations. The importance of assuring that no encroachment to the private lands has been occurred during construction activities. Recommendation for quality assurance of the provided services: (Making sure that the project is implemented in accordance with the design specifications and standards) Recommendation of having the required work plans prior project commencement in order to ensure the availability of solutions and alternatives in cases of problems / and to assure timely response to the challenges and emergences. Special attention for construction works in Area C, as parts of the water networks will be installed in Area C, PWA is advised to conduct the required coordination to avoid work disruptions, stoppage by the Israeli authorities. MoLG are ready to cooperate for the successful implementation of the project.
		 Project's detailed design was prepared by a qualified consultant in full coordination with Marj Bin Amer Municipality. Reservoirs and pumping stations

			 will be constructed in lands owned by the LGUs. Water networks will be installed in the roads according to the drawings, maps, routes determined by the LGUs. Project's design was reviewed and approved by the PWA in coordination with the LGUs. Permits by PWA were issued for the proposed water networks and reservoirs. Consultation sessions were conducted to ensure effective engagement of all stakeholders and vulnerable groups at all localities and during the design and planning phases. The construction will be supervised by a supervision engineer and monitored PWA project manager, site engineers, and specialists to ensure successful implementation of the project in accordance to the design and the quality standards. During the consultations sessions which were conducted at the benefited communities, all stakeholders and living standards. PWA will consider all the required coordination for the work in Area C in order to minimize risks of work stoppage and disruptions by the Israeli Authorities. Code of Conduct and a GM with features to handle GBV/SEA/SH complaints are established to mitigate GBV/SEA/SH risks. The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful and sustainable project. Mitigation measures of possible E&S impacts of the project will be implemented in accordance to the project-specific E&S instruments (i.e SEP, RF, LMP, etc.) and site-specific ESMP
	April 5, 2023 9:30	МоА	PWA team introduced the project's background, objectives, targeted communities, stakeholders, and design criteria. PWA projects consider undertaking all necessary mitigation measures of possible E&S impacts of a project in accordance with the project-specific E&S instruments (i.e SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation to minimize possible E&S impacts. GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks. The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful and sustainable project.

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			 The following comments were collected: MoA supports the project objectives and is ready to facilitate the efforts whenever applicable. The targeted localities mostly show a semi-arid and suffer from water scarcity. It is a serious issue that today, in 2023, those communities still have no water networks. MoA recommends to take necessary measures in order to mitigate dust effect on greenhouses in the area, as dust prevents sunlight effect important for plants growth and yield quality. Mitigate impacts on high-value and fertile lands. Narrow the scope of works to the RoW as much as practically possible in order to reduce effects on agricultural lands. Temporary effects on traffic are not expected to cause any nuisance or lead to objections by farmers as there are several alternative roads and agricultural paths farmers can use.
	April 5, 2023 13:00	МоТ	PWA team introduced the project's background, objectives, targeted communities, stakeholders, and design criteria. PWA projects consider undertaking all necessary mitigation measures of possible E&S impacts of a project in accordance with the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation to minimize possible E&S impacts. ESMP will ensure preparing traffic and roads safety plan by the contractor to minimize possible E&S impacts. GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks. The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful
			 and sustainable project. The following comments were collected: Important to ensure no disturbance to traffic. Consider planning for roads alternatives Ensure effective implementation of the construction works due to the sensitivity of the situations in the urban communities.

		 Consider the possibility of having more than one shift of works. Monitor the contractor's compliance to traffic plans and safety on roads. Keep the LGUs part of the implementation phase to ensure considering their experiences with previous projects and lessons learned.
April 6, 2023 13:00	МоН	 PWA team introduced the project's background, objectives, targeted communities, stakeholders, and design criteria. PWA projects consider undertaking all necessary mitigation measures of possible E&S impacts of a project in accordance with the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation to minimize possible E&S impacts. GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks. The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful and sustainable project. The following comments were collected: MoH supports the project as the project will enhance the public health through providing safe and sustainable water resources. The importance of water quality examination and testing before supply to end users. Coordinate with MOH for water quality assurance before supply to consumers. Special attention to existing random cesspits and septic tanks during construction activities to prevent pollution with wastewater. The necessity of conducting medical examinations for the workers, (preliminary medical examination) which is usually carried out at the Ministry of Health directorate, with the aim of ascertaining the worker's fitness for work, as well as making sure that the worker does not suffer from previous occupational diseases that may affect his work in the project or to avoid future dispute for the cause of this disease (Ensures workers aptitude to work). Mitigate construction activities and equipment impacts on workers' health by providing necessary PPEs. Lessons learned from previous similar project. Nevertheless, no serious problems in previous projects were encountered in similar projects.

			 Mitigate negative impacts, such as dust, onsite and ensure no delays in implementing the mitigation measures.
	April 10, 2023	EQA	 PWA team introduced the project's background, objectives, targeted communities, stakeholders, and design criteria. PWA projects consider undertaking all necessary mitigation measures of possible E&S impacts of a project in accordance with the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs which are under preparation to minimize possible E&S impacts. GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks. The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful and sustainable project. The following comments were collected: EQA requested that during the construction phase the project shall : Avoid the cultural and heritage places. EQA received the reservoir and poster stations coordinates to ensure they are will not be constructed in environmental sensitive areas or critical habitat. Consider preparing an Environmental and Social Management Plan in accordance with EQA ToR for an ESMP. Ensure effective progress of the project construction activities and mitigate and control noise, dust emission, soil pollution impacts and damages to agricultural lands and vegetation during implementation Mitigate impacts on high-value and fertile lands. EQA highly supports the project for it's vital positive impacts.
	April 17, 2023	ΜοΤΑ	PWA team introduced the project's background, objectives, targeted communities, stakeholders, design criteria and the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs to minimize possible E&S impacts. The following comments were collected:

			 Revise the reservoir and poster stations coordinates to ensure they are will not be constructed in any cultural heritage places. MoTA confirmed that the project will not be constructed in cultural heritage areas. Beit Qad is a village that was built after 1948. Jalboun has no cultural sensitive areas. MoTA needs to be informed before commencing the construction activities onsite. In cases of chance finds (caves, wells, etc.) the construction shall be immediately stopped and MoTA to be contacted.
			PWA team introduced the project's background, objectives, targeted communities, stakeholders, and design criteria. GBV/SEA/SH related complaints are established to prevent and mitigate GBV/SEA/SH risks. The GM aims to ensure that all comments and complaints from any project stakeholder are considered and addressed appropriately to accomplish a successful and sustainable project. PWA projects consider undertaking all necessary mitigation measures of possible E&S impacts of a project in accordance with the project-specific E&S instruments (i.e. SEP, RF, LMP, etc.) and site-specific ESMPs to minimize possible E&S impacts.
	April 9, 2023	MoPWH	 The following comments were collected: MoPWH will be carrying out another project in the area at the entrance of Beit Qad/Faqoua. The consultant of MoPWH will be asked to coordinate with the PWA to consider the design of the WSRP. It is important to construct the networks within the RoW, at the far edge of the street, and to avoid construction of any works under the Asphalt. Same applies to manholes; manholes must not be constructed within the street. No comments or major issues to be raised in regards to the E&S aspects.

Photos of consultation activities and lists of participants are provided in Annex 4 A and B, respectively.

12.3 Grievance Mechanism

The Grievance Mechanism (GM) is established at PWA to effectively handle grievances throughout the project's lifecycle, from the initiation of construction activities to completion, and even during the defect liability period. Details of the GM are included in Section 6 of the project SEP.

The GM procedures encompass specific codes and protocols designed to address grievances related to Gender-Based Violence (GBV), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH), as well as anonymous grievances. To respect anonymity, the system includes a dedicated process for reporting complaints anonymously, acknowledging that some individuals may prefer to remain unidentified when submitting grievances.

The project GM deals with the issues related to the following:

- 1. Land and other assets acquisition (e.g. amount of compensation, suitability of residual land plots, loss of access roads, loss of livelihood, etc.)
- 2. Losses and damages caused by construction works, and any direct or indirect environmental and social impacts.
- 3. Address worker grievances
- 4. Address grievances related to Gender Based Violence (GBV), Sexual Harassment (SH), and Sexual Exploitation and Abuse (SEA).
- 5. Other concerns or recommendations, etc.

The grievance mechanism is put in place with project effectiveness and functions until the completion of all construction activities and beyond till the defect liability period ends. Project Affected Persons (PAPs) and other potential complainants should be fully informed of the GM, its functions, procedures, timeline, and contact persons both verbally and through booklets and information brochures during consultations meetings and other stakeholder engagement activities.

Complainants can seek redress from the judicial system at any time. The step-by-step process does not deter them from approaching the courts. All grievances related correspondence will be documented, and the grievance resolution process will be systematically tracked. PWA will keep a log of the complaints.

Institutional Responsibility for Grievances

The main body responsible for handling grievances will be the Project Coordination Unit (PCU) at PWA. The Social Specialist working within PWA in cooperation with the Supervision Engineer/s and contractor/s will address all grievances raised by community members. The main tasks related to grievances are:

- Raise awareness about channels and procedures of grievance redress mechanisms;
- Collect the grievances received through different communication channels;
- Document all received grievances;
- Transfer the grievance to the responsible entity;
- Follow up on how the problem was addressed and solved;
- Document, report and disseminate the outcome of received grievances;
- Ensure that each legitimate complaint and grievance is satisfactorily resolved by the responsible entity;
- Monitoring grievance redress activities.

To inform relevant stakeholders of the GM information, PWA:

- Prepares and distribute among the project stakeholders a leaflet containing information about the project grievance channels and tools for raising grievances.
- Displays GM information on the project boards.
- Informs stakeholders about the GM system during meetings with the adjacent community.

The GM will be apprised to ensure that it continues to be fit for purpose and that links between the communications strategy and awareness campaign, which enhance the GM, are clearly identified and synergized.

Anyone from the affected communities or anyone believing they are affected by the Project can submit a grievance by:

- Completing a written grievance registration form that will be available (i) at the local governmental units of the affected localities; (ii) at each construction site; (iii) on the PWA website; and (iv) at the Project's headquarters in Ramallah, PWA HQ. The complaint can be submitted:
 - In person to the project's Social Specialist, or to the PWA.
 - By email to (i) the project's Social Specialist, or to (ii) PWA GM Unit: (<u>grm.pwa@gmail.com</u>)
 Fax to 2987336
- Electronically: the complainant files a complaint electronically on the PWA's website: http://www.pwa.ps/
- By telephone: the complainant can call the following numbers:
 - Project's Social Specialist
 - PWA Ramallah: +970 2 2987665

The received grievances will be reviewed and recorded in a Grievance Register.

Grievance registration forms, notice of receipt form, response to grievance form and complaint referral card form are annexed.

While PWA is responsible for managing the GM, it is expected that many grievances on the project will be related to the actions of the Contractor and, therefore, need to be resolved by them. PWA, with the support of the Supervision Engineer, will administer the GM process and determine whether they or the Contractor are responsible for addressing the grievances. The Supervision Engineer will assist PWA in monitoring the grievance resolution undertaken by the Contractor.

The Grievance Process will be overseen by the Social Specialist and allows for complaints related to the project's components and implementation to be submitted through various channels, including written forms, electronic submissions, telephone calls, and emails. The received grievances will be recorded in a Grievance Register for proper tracking. The process involves verifying the complaints, conducting field visits if required, and referring the issues to relevant departments. The complainant will be notified of the decision or solution, and the complaint will be closed accordingly. If the complainant is not satisfied, internal and external dispute resolution schemes will be available. Anonymous complaints and those related to gender-based violence will be addressed with special referral pathways, ensuring confidentiality. The social specialist will identify Non-governmental organizations and/or government institutions (e.g. Ministry of Social Development or Ministry of Women's Affairs) that can provide support services in any cases of GBV/SEA/SH related complaints. Relevant organizations/institutions will be identified and agreements for their services will be finalized prior to the start of construction. Periodic reports on the number and handling of complaints will be provided to the PWA and the World Bank.

The point of contact regarding grievance management and the local stakeholder engagement activities is the Director of the PIU at PWA:

Description	Contact details
Agency:	PWA
То:	Rawan Iseed Institutional Development Manager
E-mail:	rawan_isseed@hotmail.com
Website:	http://www.pwa.ps/
Telephone:	02-2987665

12.4 WB Grievance Redress Services

Communities and individuals who believe that they are adversely affected by the World Bank's supported project may submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of the World Bank's non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and the World Bank's Management has been given an opportunity to respond. A complaint can be submitted to the Bank GRS through the following channels:

- By email: grievances@worldbank.org
- By fax: +1.202.614.7313
- By mail: The World Bank, GRS, MSN MC10-1018, 1818 H Street Northwest, Washington, DC 20433, USA
- Through the World Bank office in the West Bank
- For information on how to submit complaints to the World Bank's GRS, please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit <u>www.inspectionpanel.org</u>.
13 ANNEXES

14 A: Photos of consultation Activities / Sessions



Consultation Session: Beit Qad, Jalboun and Arabuna

B: Lists of Attendee

Photos from the site visit _ March 7^{th} 2023



Connection Point in Beit Qad from the industrial zone. (Front of Beit Qad municipality)



Main route from Beit Qad to Deir Abu Daief, adjacent agricultural lands



Jalboun transmission line rout and existing pump station



Jalboun transmission pipeline rout / adjacent agricultural lands



Jalboun Networks route



Jalboun networks



Jalboun/ water tank



Arabuna transmission and network rout



Arabuna transmission and network rout



Arabuna _ Water Tank Location





Beit Qad _ Civil defense

Existing Solar Plant _ near Beit Qad Proposed pump station





Beit Qad Elevated Reservoir site



Beit Qad _ Networks route



Beit Qad school to be served by the water networks

Annex XX

Terms of Reference (ToR) for Livelihood Assessment and Restoration of Water Vendors Impacted by the Construction of a Water Supply System the Villages of Beit Qad, Arabuna and Jalboun.

Introduction

The purpose of this ToR is to outline the requirements for conducting a livelihood assessment and developing a mitigation or livelihood restoration action plan for water vendors affected by the construction of a water supply system the Villages of Beit Qad, Arabuna and Jalboun. The assessment will focus on understanding the livelihoods of water vendors, their dependency on the existing water supply activities, and the potential impacts of the project on their socio-economic conditions.

Objectives

The primary objectives of the assessment are as follows:

a) Identify water vendors who currently supply water in the Villages of Beit Qad, Arabuna and Jalboun, and assess the nature and scope of their livelihood activities.

b) Evaluate the potential impacts of the construction of the water supply system on the livelihoods of water vendors.

c) Develop a mitigation or livelihood restoration action plan to address the impacts on water vendors and ensure a smooth transition to alternative livelihood sources.

Scope of Work

The assessment shall include, but not be limited to, the following elements:

a) Identification and Mapping: Identify and map water vendors who will be impacted by the construction of the water supply system, and categorize them based on their dependency on the water supply activities.

b) Socio-Economic Assessment: Conduct a comprehensive socio-economic assessment of the water vendors, including their income sources, assets, skills, and vulnerabilities.

c) Impact Analysis: Analyze the potential impacts of the water supply system project on the livelihoods of the affected water vendors.

d) Livelihood Restoration Action Plan: Develop a mitigation or livelihood restoration action plan that outlines measures to support affected water vendors in transitioning to alternative livelihood sources. The plan should include provisions for consultation, communication, and training, access to grievance redress mechanisms, implementation arrangements, and budget requirements.

Methodology

The assessment shall employ a participatory approach, involving consultations with affected water vendors and relevant stakeholders. A combination of qualitative and quantitative data collection methods, including surveys, interviews, focus group discussions, and site visits, should be used to gather relevant information.

Timeline

The timeline for the assessment and the preparation of the mitigation or livelihood restoration action plan is as follows:

a) Livelihood Assessment: 8 days

b) Development of Mitigation or Livelihood Restoration Action Plan: 8 days

Reporting

The consultant shall prepare a comprehensive report that includes the findings of the livelihood assessment, impact analysis, and the mitigation or livelihood restoration action plan. The report should be submitted to Palestinian Water Authority (PWA) for review and approval.

Requirements

The consultant or consulting firm should possess the following qualifications and expertise:

a) Extensive experience in conducting livelihood assessments and socio-economic studies.

b) Familiarity with the water supply and sanitation sector, particularly in rural areas.

- c) Understanding of the social and economic dynamics of water vendors and their communities.
- d) Ability to engage and consult with affected stakeholders in a participatory manner.

e) Strong analytical and reporting skills.

Budget

The consultant shall provide a detailed budget breakdown, including all costs associated with the assessment, and development of the action plan.

Deliverables

The following deliverables are expected from the consultant:

a) Inception Report detailing the proposed methodology and work plan.

b) Draft Livelihood Assessment Report and Mitigation Action Plan.

c) Final Livelihood Assessment Report and Mitigation Action Plan, incorporating feedback from PWA.

Communication

The consultant shall maintain regular communication with PWA and provide progress updates as required.

Contractual Arrangements

The consultant shall enter into a formal agreement with PWA, outlining the terms and conditions of the consultancy, including payment schedule and intellectual property rights.

Compliance

The assessment and action plan shall be prepared in compliance with international best practices, and in line with the World Bank Environmental and Social Framework (ESF).