PUBLIC WORKS PROJECT
مشـــروع الأشغال العامة

Yemen Sustainable Fishery Development in Red Sea and Gulf of Aden (SFISH) (P178143)

Environmental and Social Management Plan (ESMP No.10)

For the

Rehabilitation and Development of Fuqm Fish Landing Site

(One Sub-project)

February 08th, 2025

Table of Contents

List of tables

List of figures

Abbreviations

CC	Community Committee
CoC	Code of Conduct
CHM	Complaint Handling Mechanism
C-ESMP	Contractor-Environmental and Social Management Plan
E&S	Environmental and Social
EHS	Environmental, Health, and safety
EPA	Environmental Protection Authority
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
GAF	General Authority for Fisheries
GBV	Gender Based Violence
GNI	Gross National Income
HQ	Head Quarter
ICE	ICE factory
IDs	Personal Identifications Cards
IDP	Internal Displaced Persons
IPs	Interested Parties, UNICEF, other Clusters such as WASH
LMP	Labor Management Procedures
MSDSs	Material Safety Data Sheets
O&M	Operation and maintenance
OHS	Occupational Health and Safety
PPEs	Personal Protective Equipment's
PTW	Permit to Work
PWP	Public Works Project
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SFD	Social Fund for Development
TRE	Technical Resident Engineer
UNDP	United Nation for Development Programme
UNICEF	the United Nations International Children's Emergency Fund
UNOPS	The United Nations Office for Project Services
WASH	Water, Sanitation, and Hygiene
WB	World Bank
WHO	World Health Organization

1 Introduction

The current Environmental and social management plan (ESMP) for the Rehabilitation and Development of Fuqm Fish Landing Center is prepared based on Sustainable Fishery Development in Red Sea and Gulf of Aden (SFISH) Environmental and Social Management Framework (ESMF)[1]. The ESMF was prepared by the United Nations Development Programme (UNDP) to meet the requirements of the World Bank's Environmental and Social Framework (ESF), and the national regulations. The SFISH project ESMF will guide Public Works Project (PWP) to ensure that all subprojects are prepared and implemented in accordance with the ESF requirements, including the preparation of subproject specific site ESMP. For this purpose, the ESMF details how PWP will screen each activity to assess its potential environmental and social risks and impacts and Occupational Health and Safety (OHS) risks and impacts, identify the mitigation measures, and monitor the ESMP implementation, most particularly the environmental and social and OHS performance of subprojects contractors.

The targeted landing site is in Fuqm area, which is a part of Al-Buriqah District, Aden Governorate. The PWP is seeking the development of the targeted landing site by taking into consideration the social and environmental standards as contained in the WB' Environmental and Social Framework (ESF). The subproject involves the rehabilitation of the fish landing site, which was damaged due to natural disasters and lack of maintenance.

The sub-project falls under the fishery sector and the activities include the rehabilitation and development of the fish landing site. PWP will invest 500,000 US$ to implement the civil works to be implemented by public/general contracting modality/contracted workers selected by a contractor and direct workers selected by PWP[2].

Environmental, social, and technical teams have conducted a field visit to the targeted landing site, during which, important information was collected from the concerned stakeholders in the area. Fishermen community and local authorities (local council, Director of Fish Landing Projects, *etc.*) have been met. The visit included also an inspection of the existing condition of the landing site. The preliminary environmental and social screening of the landing site (Annex 2) has been carried out during the field visit. Based on the anticipated environmental and social risks and impacts of the subproject is categorized as Moderate.

The major anticipated adverse impacts during the rehabilitation and construction activities of the landing site are temporary and reversible. Pollution that could be generated by the production of solid wastes during construction and rehabilitation, as well as generation of dust, chemicals and noise could be avoided by following a proper environmental management accordingly with the WB's Environmental and Social Safeguards (ESSs).

[1] https://www.pwpyemen.org/index.php/en/media-center-en/publications/category/14-sustainable-fishery-development-in-red-sea-and-gulf-of-aden-sfish

[2] The public contracting modality means implementing a subproject by a contractor who is chosen from public tender and public announcement, for construction activities, supply, installation, construction, and commissioning. A contractor may also hire contracted workers from within communities where construction activities will occur.

The social impacts from and during the intervention are also temporary and reversible. Child labour, GBV/SEA, communities and gender non-inclusion and participation, conflict sensitivity could be avoided by following a proper social management accordingly this ESMP.

Table 1: Shows the introduction general information

Name of the Subproject:	Rehabilitation and Development of Fuqm Fish Landing Site
Subproject ID:	02-9-17557
Subproject Locations	Fuqm area, Al-Buriqah District_ Aden Governorate
Department Implementing Subproject	Fish sector
Subproject Implementer:	Public Works Project (PWP)
Estimated Cost of Subproject:	$ 500,000
Estimated Cost of ESMP	$25,000
Implementation period	12 months
Beneficiaries	Indirect Beneficiaries is **3,485** persons (**1,720 males** and **1,765** females). Direct Beneficiaries is **850** fishermen
Field Visit (Yes/No; Include Date):	Yes- 12 September and 15 November 2024
Was Consultation Carried out? (Yes/No):	Yes, Refer to Public Consultation Section (see public consultation section 8)
Proposed Class of Subproject (Low to High):	Moderate

2 Sub-Project Description

The current proposed subproject includes the rehabilitation and developing of the already existing construction of the landing site that is located at the coastal zone of Aden Governorate. The targeted landing site is placed at Fuqm area, which is a part of Al-Buriqah District, which is located to the west of the governorate about 30 Km.

Fuqm Fish Landing Center was established in 1987 with an approximate area of 6,475 m2 and is bordered to the south by a plateau, to the west by the Gulf of Aden, and to the north and east by residential areas of the villages of Bir Fuqm. It is a source of fish supply for the region with commercial fish and a source of income for fishermen, fish sellers and workers in the fish sector. It is considered one of the most important landing sites in Aden governorate. The infrastructure in the landing site is currently in bad shape due to natural disasters, lack of maintenance and harsh climatic conditions which have made it deteriorate and require to be rehabilitated.

The intervention of PWP will include surveying works, removal of old and deteriorated constructions, levelling of the landing site, excavation and filling works, in addition to, construction of a guard room, five

toilets, and two boats ramps. Moreover, rehabilitation of the existing auction hall, administrative offices, and boat maintenance building, maintenance of water tank, electricity, and sanitary system (sewage network, wastewater sedimentation and soak away pits for collecting sewage, *etc*.), providing a landing site with water service, and development of the external works/services (driveway, car parking lots, vehicular gate access, pedestrian access, site landscaping, *etc*.). The subproject aims to improve the existing facilities to help fishermen and fishing communities develop their fishing processes and create new opportunities for beneficiaries which will provide them additional income.

It is expected that the sub-project will serve approximately **3,485** beneficiaries, out of which, **1,720** males and **1,765** females. Particularly, the project will have a direct positive impact on **850** fishermen.

The subproject will be implemented through a contracting modality and the implementation period is twelve months. The total estimated cost of sub-project is **$ 500,000**. The estimated cost of ESMP implementation is **25,000 US$**. A portion of this amount will be included in the contracted costs of the sub-project, catering to necessities such as PPEs, and the installation of latrines on the site. Meanwhile, expenses for staffing, consultations, and the creation of awareness materials will be drawn from the ESMP budget.

The contractor will be responsible to protect his/her workers and the communities during implementation by applying the environmental and social mitigation measures, and provide the required training, tools, and necessary PPEs for workers. Contractors will hire the workforce from the targeted areas. Given the fact that some parts of the activities require skilled labor, thus these tasks will be undertaken by appropriately skilled workers from the targeted areas and when not available, the contractors will hire skilled laborers from nearby areas[3]. In coordinate with PWP and community committee, the contractor can finish the existing buildings such as guard's rooms and toilets to be used for workers accommodation in terms of minimum space $4m^2$ per worker according to International Finance Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD) guidance note. For part of the project implementation and operation, a community committee was elected from members of the fishermen's associations located in the targeted area, as well as from members of the local council, including women and men, which participated in the decision-making, need assessment, and public consultation. Also, they will participate in the monitoring of implementation, hand over the sub-project from the construction contractor to the operator, as well as operation and maintenance. Furthermore, according to SFISH's ESMF under subcomponent 2.1-d (page 11) the training, and capacity building related to sustainable fishing practices, and maintaining hygiene and sanitary aspects to maximize the market values will be conducted by TVET centers, and Yemeni Fishery Exporters' Association.

The subproject will enhance the living environment conditions for targeted communities. Furthermore, the subproject will provide temporary employment opportunities for skilled and unskilled workers from local communities during implementation, generating new fishermen, reducing economic impacts and generating positive impacts on the targeted areas' economy.

The PWP will ensure that the proposed subproject incorporates the proper environmental and social risk management principles and practices as outlined in the present ESMP, and thus ensure compliance with

[3] The project will require accommodation since it is expecting the skills workers will come from the surrounding areas. The contractor will provide a suitable accommodation for them to settle in during the implementation period.

the Environmental and Social Framework (ESF) of the World Bank, as well as with the applicable environmental and social policies and legal requirements of the Government of Yemen.

2.1 Scope of Work

Fuqm Landing Site is in bad shape as the climatic harsh conditions have made it deteriorate it has to be rehabilitated. The proposed project will involve the construction of new buildings and rehabilitation of the existing buildings on the landing site. The objective of this project is to help in providing appropriate facilities for loading and marketing fish.

The intervention of PWP will include: the construction of a guard room, five toilets, and two ramps for the boats, as well as rehabilitation of the existing auction hall, administrative office and boat maintenance building, maintenance of water tank, electricity, and sanitary system (sewage network, wastewater sedimentation and soak away pits for collecting sewage, sewage will be disposed of by suction using suction trucks and transferred and disposed to the nearest manhole to the public sewer.

etc.), providing a landing site with water service from public water network and the activities of the fish landing site is not expected to use high amount of potable water, and development of the external works/services (driveway, car parking lots, vehicular gate access, pedestrian access, site landscaping, *etc*.). The activities will require stones, sand, and cement for construction that will be bought from local markets. The subproject activities will include but are not limited to the following:

- Demolishing buildings, breaking rubble inside or outside buildings, or removing existing walls or fences including collecting and transporting construction waste to areas appointed by local authorities[4].
- Removing loose stones and soil to create a ramp in front of the outside, lifting and transporting waste outside the site to places specified by the local authorities.
- Excavation works for foundation of the guard room, toilets, and the boats ramps with depth is 1.7 - 2.2 metres, width is 1.1m and length about 130 metres, according to the design drawings.
- Backfilling works in layers using the extracted soil or proper materials in all part of works.
- Supply the construction materials such as stones[5], sand, and gravel, as well as the reinforcement steel bars, cranes, Ladders, Scaffolds, demolishing equipment, welding equipment, …etc.
- Plain concrete works for the floors of the Dukats (Placing for the salespeople), guard room, toilets, and the ramps for the boats.
- Reinforced concrete works for foundations, necks, and ground beams, columns, beams, slabs, stairs and lintels of guard room, toilets, and the ramps for the boats.
- Construction of stone buildings, including reshaping stone, for guard room, toilets foundations and protecting walls, the 0.6 metres height, width is 0.6 metres, and length is 160 metres.
- Implementation of stone cladding for the external walls of the guard room and toilets with 3.6 metres height.
- Implement 20cm thick concrete block building for the Dukats in the auction hall with 1 metres height.
- Implement 15cm thick concrete block building in the guard room,and toilets with 2.8 metres height.
- Cement plastering works for interior, and external walls and roofs.
- Epoxy paint 500 micron thick for walls of auction hall.

[4] construction residues will be collected and transported and disposed to the authorized location in coordination with the local authorities.

[5] The standard stones dimensions are (25*25*25) cm. Equipment will be used as List of equipment and tools used in all activities are: excavator, dump truck, stone cuter, concrete mixing machine, vibrators, wheelbarrow, screeds, shovel, and hammers, masonry tools, safety equipment, cranes, Ladders, Scaffolds, etc. List of materials such as stones, cement, sand, and water.

- Epoxy paint 5 mm thick for floors of auction hall.
- Bitumen paint for foundation of auction and walls.
- Insulating layer for roofs, bathroom floors, and under plain concrete.
- Installing an iron canopy for parking lots and carrying solar panels in the future.
- Completing the construction of a resistant stone wall with a length of 140 meters, a width of 30 cm and a height of 60 cm, in addition to building a wall of blocks with a thickness of 20 cm, above the stone buildings, including the concrete beam, cupolas and upper cornice according to the design drawings and specifications, with a length of 160 meters, width is 0.2m, and a height of about 2.5 meters.
- **Tile works including**:
    - Supply and installation of Mosaico tiles, 25 x 25 x 3 cm, white, automatic pressure.
    - Supply and installation of granular ceramic tiles 30 x 30 cm.
    - Supply and installation of ceramic tiles 20 x 25 cm.
    - Supply and installation of Mosaico automatic pressure stairs.
    - Supply and installation of 10 cm ceramic skirting.
    - Supply and installation of colored sidewalk paving block-interlock (8*10*20cm).
    - Supply and installation of road/driveway paving and parking lot.
    - floor tile polishing.
    - Concrete ramp.
- Installation of two durable, and Corrosion Resistance steel gates, about 4.4 m^2 including the welding works.
- Installation of good-quality Aluminum doors.
- Installation of high-quality aluminum windows.
- Supply and installation of a metal board with the name of the project, sponsor and the GM hotlines.
- **All sanitary works include:**
    - Supply and Installing 5 toilets, 4 washbasins, 7 floor siphons, 6 flush faucets, 6 valves 2” diameter, 3 gate valves 2” diameter, 14 water taps 1” & 1/2”.
    - Supply and Installations sanitary pipes of 6 inches in diameter (UPVC- 10 bar - With Rubber Ring), 75metres lengths, and depth is 0.5metres.
    - Supply and installation of polyethylene pipes with a diameter of2 and 1 inch, 220 m lengths, and depth is 0.5metres.
    - Supply and Installations of 10 Valves chamber rooms (80X80 X 80) cm.
    - Supply and installation of high-density polyethylene drainage channel, 102 m length, with dimensions of (40X40 X 100) cm.
    - Supply and installation of a 10,000 and 5,000-gallon wastewater sedimentation tanks made of polyethylene, and soak-away pits[6] from precast concrete molds 1.2 meters in diameter, 15 cm thick, and 2 meters in height, including the concrete covers 15 cm thick, one for auction hall with discharging directly and the other from bathrooms to septic tank then to another soak-away pit.
    - Supply and installation of 3 fiberglass water tanks with size 1.5 m3, 2 m3, and 3 m3, and connected them with water network and to main water tank, for the guard room, toilets, and boat maintenance garage.
    - Installation of thick plastic pipes (UPVC) to drain rainwater, 4 inches in diameter.
    - Supply, installation and commissioning of a 10,000 liters (double wall) fuel tank with a submersible fuel pump and generator 2Hp, and a digital fuel filling cabin with two outlets for the

[6] A soak-away pit is a dry well or leach pit that is used for the disposal of wastewater, usually from septic tanks. It works by allowing the wastewater to slowly soak into the ground (soak-away) instead of contaminating nearby water sources.

fuel station and supply the fire extinguishers. The fuel tank and generators have a concrete base and good ventilation
    - Supply and installation of fuel station shed cover.
- **All electrical works.**
    - Supply and installation of one main electrical distribution board and 4 sub electrical distribution boards.
    - Supply and installation lighting fixtures, 9 LED 12Watt, 9 LED 20Watt,68 LED 18Watt, 29 LED 100Watt.
    - Supply, installation and commissioning of a high quality 220V 50Hz (25*25cm) wall suction fan for toilets.
    - Supply, installation and commissioning of a high quality 220V 50Hz 400 CFM wall suction fan.
    - Supply, installation, and testing of 34 electric sockets, 13-amp, 230-volt.
    - Supply, installation, and testing of 68 electric sockets, 16-amp, 230-volt.
    - Supply, installation and testing of 4 single-phase switches, 32-amp, 230-volt.
    - Installation and testing of 36 electrical internet and data sockets.
    - Supply, installation, testing and operation of 2 glass-breaking compressor switch for the MANUAL CALL POINT fire alarm system.
    - Supply, installation, testing and operation of 2 FIRE ALARM BELL.
    - Supply, installation and operation of 2 split air conditioners, 220-volt, 50 Hz, high quality, economical inverter type, 12,000 BTU (1 Ton).
    - Supply and installation earthing system for all building of fish landing site.
- Maintenance and restoration of the metal structure roof of the hangar.
- Other works such as paint peeling, water tank maintenance with iron ladder, iron gate restoration and repair, fence completion.
- Providing a landing site with water service from public water network.
- Planting 30 native non-invasive trees around the sub-project area.
- Collecting and transporting the construction waste residues to areas appointed by local authorities[7].

The following table shows some of the subproject data:

Table 2: Subproject Data

Governorate	Subproject ID	Subproject Name	Sub-project Estimated Cost USD	ESAP Implementation estimated Cost USD[8]	Estimated/ planned No. of Labor[9]
Aden	02-9-17557	Rehabilitation and Development of Fuqm Fish Landing Site	500,000	25,000	206

Typical Drawings:

[7] Construction waste will be collected and transported and disposed to the authorized location in coordination with the local authorities.

[8] Some of estimated costs of ESMPs implementation will be part of the subproject-contracted cost such as PPEs, first aid box, and providing latrines in sites; other cost, staffing, transportation, administration, and consultations will be covered from the safeguarding budget that is mentioned in the ESMP.

[9] Number of workers is calculated as follows: 10% of estimated project cost of all projects / (daily wages for each worker (11$)/No of working days per month (22) = 206; Skilled labours is estimated as 0.3 of total no of labours; non-Skilled labour is estimated as 0.7 of total no of labours

Figure 1 is a general site and main components of fishery landing site can be seen in **Annex 1.**

2.2 Location

The targeted landing site is located on the southern coast of the Republic of Yemen on the Gulf of Aden. It belongs to the Al-Buriqah Directorate administratively and is 30 km away from Aden Governorate. The Fuqm area has a sandy coast of 1 km in length, bordered to the south by a plateau and a waterway that flows into the sea, to the west by the Gulf of Aden, and to the north and east by residential areas of Bir Fuqm villages, and it is considered one of the important landing centers in Aden Governorate and was a source of supply for the region with commercial fish and a source of income for fishermen, fish sellers and workers in the fish sector. The following table 3 shows the location, coordinates, and figure 2 shows the Google map site of the project site.

Table 3: Shows the subproject location coordinate and Map link

Governorate	Sub-project ID	Sub-project title	N	E
Aden	02-9-17557	Rehabilitation and Development of Fuqm Fish Landing Site	12.748301	44.827212

Figure 1 location of Fuqm landing site

3 Environmental and Social Baseline conditions:

3.1 Introduction

PWP technical team conducted socio-economic surveys such as demographics, livelihoods, income, access to basic services, and civil society organizations in the sub-project area, and also surveyed the site of the landing site and the coastal area adjacent to the site of the fish landing site, as well as the marine environment such as water quality, geology, hydrology, plant and animal diversity, marine habitats and ecosystems such as (coral reefs, mangroves, etc.).

Aden governorate is located in the southern part of the Republic of Yemen, 363 kilometers south of the capital of Sana'a, It is bordered to the north and west by Lahj Governorate, to the east by Abyan Governorate, and to the south by the Gulf of Aden and the Arabian Sea. The governorate located on the coast of the Gulf of Aden and divided administratively into 8 districts. Aden is the smallest governorate in Yemen by area with 741 Km^2. Based on the 2021 Humanitarian Needs Overview Yemen, OCHA, the population of Aden governorate, reached (1,053,455) people, with a population annual growth of 3.77%. The economic activities in the Governorate of Aden range from industry, fishing, and commerce to tourism and services. The port of Aden and the regional and international free economic zone located there make it an important economic center of Yemen.

Fuqm is located on the southern coast of the Republic of Yemen, on the Arabian Sea. It belongs to the Al-Buriqah Directorate administratively and is 30 km away from Aden governorate. The Fuqm area has a sandy and rocky coastline of approximately 1 km in length, and it is considered one of the important landing centers in Aden Governorate. It was established in 1987 with an area of about 6,475 m^2 and was a source of supply for the region with commercial fish and a source of income for fishermen, fish sellers and workers in the fish sector. Based on the 2021 Humanitarian Needs Overview Yemen, OCHA, Al-Buriqah district has a total population of 133,701 out of which 70,569 are males 63,132 are females.

Despite the fragile situation in the country, the climate conditions in the last years and lack of maintenance, Fuqm Fish Landing site is still operating and giving minimum services for the beneficiaries. On the other hand, some facilities went out of service and others were destroyed. According to the beneficiaries, the fishing boats mainly suffer from the difficulty of reaching the shore especially in the heavy tides season and the unsuitable shore for landing. The fish prices are usually high because of insufficient selling yard for the fishermen, regular interruptions of electricity supply and the nonexistence of the drinking water in the site.

Some social baseline conditions such as poverty, and access to basic services are some of the social issues encountered in the area. The total number of fishermen was 850 fishermen with their boats (300 boats) that used it daily for landing their catch, that are only recorded according to the fish association in the landing site. However, Yemen beaches are rich of the fish wealth because of its strategic location. The fishing sector in Fuqm depends on small-scale fisheries, also referred to as traditional or artisanal fisheries. Fuqm fish landing site production amounted about 2 tons/day and about 750 tons/year, according to the Fuqm fishermen association.

According to the social survey conducted by PWP social mobilized teams, most of the people in the subproject area are fishermen, and some are daily laborers. A few works as government employees, but their living conditions are difficult primarily due to the devaluation of the Yemeni Riyal. Hence, it is estimated that about 50% of the citizens in the area are considered poor, 50% of the people in the targeted community between the ages of 15 and 65 years are unemployed . Because of the high cost of fishing and its required equipment the migration reached 11%. The main income is the fishing in the targeted area and the trade in the fish products. The women main daily works focus on take care of the children, house duties, and a few work as government employees.

The targeted area has good fundamental basics of sustainable development goals. The education situation is good as there is one school, and one medical center is also available in the area. A water network for drinking water reaches the houses of the area and some residents get water through water trucks. The sanitation infrastructure in the region is a sewage network but the new homes have a cesspit. Old Fuqm market is the nearest market to this landing site.

3.2 Physical Environment

3.2.1 Climate, and Meteorology:

Yemen has a predominantly semi-arid to arid climate, with rainy seasons during spring and summer, and with high temperatures prevailing throughout the year in low- altitude zones. Three large bodies of water affect Yemen's climate: The Indian Ocean (including the Gulf of Aden and Arabian Sea), the Red Sea and the Mediterranean Sea. They are sources of moisture for the passing air masses, and they have an impact on the general atmospheric circulation. The Indian Ocean very significantly influences the position of Western Asia and Eastern Africa, and it causes the monsoonal wind system.

Rainfall in Aden governorate is generally low, and rain is usually winter and spring, and is rare in summer. The rainy period of the year lasts for 2.0 months, from July 21 to September 22, with a sliding 31-day rainfall of at least 13 millimeters. The month with the most rain in Aden is August, with an average rainfall of 50

millimeters. In general, the weather of the Southern Yemen coast and Gulf of Aden is hot and arid. Two monsoons[10] seasons are prevailing in the southern part of the Republic of Yemen. From January to March (winter), the northeast (NE) monsoon forces surface waters to flow westwards from south south-east (SEE) towards Bab-Al-Mandab and the Red Sea, while during the summer, south-west (SW) monsoon prevails from May to September blowing winds towards the east. Although, monsoon generally implies heavy rain, they are often dry and bring little moisture in the Republic of Yemen. Normally, most rainfall occurs during summer season between June and September as it is influenced by the SW monsoon winds, while rain falls on the coastal plain in winter and autumn usually in small quantities.[11]

The climate of Aden governorate is relatively hot during the days of the year, as the average temperature in Aden during the days of the year reaches about (27 degrees), and the humidity is between (62%-73%), and the upper and lower temperatures of the surface sea water in Aden ranged between 25-32.4 degrees Celsius.

Water vapor is contained in varying amounts in the air masses that collectively make up the lower atmosphere. The amount present depends upon the origin of the air mass and its recent history[12]. Annual relative humidity in the area ranges from its maximum during summer (July-August) to its minimum during winter season.

Table 4 Rainfall, Climate, Temperature, and Weather

Governorate	Subproject ID	Climate	Annual Rainfall Average	Monthly Temperature Average	Monthly Humidity Average
Aden	**02-9-17557**	In Al Burayqah, the summers are long, hot, and mostly cloudy; the winters are long, warm, windy, and mostly clear; and it is oppressive and dry year-round.	13-50 mm[13]	24℃ - 35℃	62% - 73%

3.2.2 Hydrology

The surface of Aden governorate is distinguished by its multiple slopes that are in different directions. The surface of the city of Aden slopes towards the south, and these heights appear in the southern part of Aden city, represented by the heights of Jabal Shamsan, whose highest peaks exceed 500 meters, and the heights of Jabal Ihsan and Jabal Al-Muzlqam in Little Aden, which are less high than Jabal Shamsan, and the Aden Highlands do not differ from the rest of the Yemeni highlands in terms of composition, as they are of volcanic origin, and although the mountainous highlands occupy large areas of the city, their impact is weak and limited on the climate of the city of Aden.

The location of the Fuqm center is strategic as it is located along a plateau and a mountainous land stretch known as Ars Mutrah, which makes the center semi-protected during the winter and spring seasons (October-April) when the winds are northeast, according to the head of the Fuqm Fishermen's Association

[10] Fengchao Yao, & Ibrahim Hoteit. (2015). Thermocline regulated seasonal evolution of surface chlorophyll in the Gulf of Aden

[11] http://yemen-nic.info/

[12] Stone, E. C. 1963. The Ecological Importance of Dew; *The Quarterly Review of Biology*; 38(4): 328-341.

[13] https://weatherspark.com/y/103100/Average-Weather-in-Al-Burayqah-Yemen-Year-Round , and, https://weatherandclimate.com/yemen/adan/al-burayqah

and some fishermen in the area. Also, the Fuqm Fish Landing Center is bordered to the south by a plateau and a waterway, where rainwater flows from this plateau through the stream to the sea, as the stream is not dangerous to the location of the landing center due to its high level from the level of the stream and also due to the lack of rainfall in Aden. The subproject implementation will not increase water usage due to the refrigeration or potential use of an ice factory, cleaning, and other activities.

3.2.3 Geology

Aden geology is mainly part of the Arabian Shield geology. Types of rocks in Aden as following:

- Quaternary rocks of volcanic rocks: These are mainly found in Aden and consist of basaltic tuffs, volcanic ash, biomass and a little volcanic glass. Most Quaternary rocks are used in construction materials.
- Igneous rocks: are represented by gneiss, schist and volcanic rocks. These rocks are penetrated by extrusive rocks such as granite (granodiorite, gabbro, syenite).

Clay materials are found in layers ranging in thickness from 2 to 10 meters, intermingled with sedimentary rocks as well as volcanic rocks of the Quaternary period.

The targeted landing site lies on a sandy and rocky coastal shore. This coastal area known as the intertidal zone, is characterized by a slight slope of the coast towards the open sea. The height of the tide in this area reaches 1.6 meters, and its length expands to 40 meters during the winter months (November and December) and is characterized by a sandy bottom and the presence of some loose rocks. (Figure 3&4)

Figure 2 Geological characteristics of the landing site shore (Rocky)

Figure 3 Geological characteristics of the landing site shore (Sandy)

3.2.4 Cultural Heritage:

The sub-project will be implemented within the existing landing center for which there is no record of any archaeological or historical sites. The subprojects are located at a limited scope which is away from any heritage sites. The sub-project will be limited to improving and building new facilities, so, there are no potential impacts on the cultural heritage at the site. However, the contracts will include provisions about find chance procedures and the training of staff/supervisors to deal with the emergence of any potential chance find, including the need to contact the Antiquities Authority in the Ministry of Culture, and the local council to assess the situation quickly.

3.2.5 Air Quality and Noise Nuisance

Data on air and noise quality in Yemen in general and in the areas within the subproject are extremely scarce. According to Environmental and technical study for subproject area, no air and noise quality monitoring data for the subproject area were found. In general, the air quality around the proposed landing site project is of strong sea breeze and clear with no pollution.

The World Health Organization (WHO) defines noise above 65 decibels (dB) as noise pollution. Noise becomes harmful when it exceeds 75 decibels (dB) and is painful above 120 dB. There is a lack of air quality data in Aden governorate.

Possible air pollution, noise emissions, and traffic accidents may be limited only during the implementation of the subproject, through excavation work and movement of trucks when transporting materials and machinery, while potential air pollution or noise during the operation and maintenance phase may occur when the movement of fish transport trucks, in addition to the emissions from the fishing boat engines, but these impacts will be very slight if there is management and organization of the implementation works and the movement of trucks and equipment during the construction and operation phases of the subproject.

3.3 Biotic Environment

3.3.1 Flora

The scarcity of rain and high temperature in the targeted area have created a harsh environment for plant species to grow. The area surrounding the landing site is characterized by natural rocks and has no sand dunes or any vegetation. On the other hand, the intertidal zone is found to be sandy and rocky where no flora life was found during the field visit.

3.3.2 Fauna

Despite the fact stating that, the Arabian Peninsula is an important "land Bridge" between Africa, Asia and Europe, however, the site is not reported as a bird sanctuary or migratory route for birds due to the absence of wetlands or any other bird preferred habitats. However, only one seabird was observed in the intertidal zone, Western Reef Heron and Sea Cucumber (*Holothuria atra*). (Figure 5)

Lack of vegetation cover and scarcity of water resources have limited the existence of terrestrial fauna in the targeted village. In the subtidal zone on the front of Faqm landing center, where the sandy bottom dominated and only a number of crabs and some small pelagic fish were observed, and no coral reefs batches were found.

Fishing sector in Yemen depends on small-scale fisheries, also referred to as traditional or artisanal fisheries. Yemen has been gifted with a coastal zone that is characterized by high primary productivity, which is considered a basic feeding and nursery ground for marine organisms. It is reported that around six hundred species of fish and marine organisms were recorded in Yemen's coastal waters[14]. The most common commercial fishes available in Yemeni waters are tuna, Spanish mackerel, Sardines, Anchovies, Indian mackerel, Emperor, Snappers, Groupers, Barracudas, Carangoides, Sharks, …… *etc.*

[14] **Shaher, S.** 2007. Biology and Status of Sharks Fishery in Yemen, Marine Science and Biological Researches Authority, Ministry of Fish Wealth.

Figure 4 The bird life and Holothuria atra observed in subproject area

3.3.3 Critical Habitats and Protected Areas

The visual inspections of the targeted site showed that there is no vegetation cover, nor any important and sensitive critical habitats. Strong waves hitting the southern coast has made it difficult for mangrove seedlings to settle down on the intertidal zone of the Gulf of Aden and Arabian Sea. Mangrove habitats were not reported in the coastal zone of Aden governorate[15]. No coral reefs nor habitats of sea grasses threatened or endemic species present/ reported in the nearby of the landing site coastal and sea zone.

Nesting beaches along the southern coast of Yemen are considered to be some of the best remaining nesting ground in the world[1]. However, no turtle nests were reported in the vicinity of the landing site.

3.4 Existing situation

The area of the landing site project is approximately 6,475 m2. The existing condition of the landing site construction is including a Boat maintenance building, fish auction hall, fish refrigerator and ice factory are old and not working efficiently, admin office, fuel station is old and not protected, water tank is old and need maintenance, and incomplete mesh fence. (Figure 6).

The old age of the landing center (established in 1987) and the destruction it suffered during the civil war in 1994, as well as the increasing demand and pressure on its utilities, accompanied by the poor level of maintenance of the center facilities has resulted in the deterioration of center infrastructure. Although, the fragile situation in the country and its entities in addition to the climate condition in the last years and lack of maintenance, Fuqm fish Landing site is still operating and giving minimum services for the beneficiaries. On the other hand, some facilities went out of the service and others destroyed. According to the beneficiaries, the fishing boats mainly suffer from the difficulty of reaching to the shore especially in the heavy tides season and the unsuitable shore for landing. The fish prices usually be high because of insufficient selling yard for the fishermen. In addition to the regular cutting of the electricity network because of improper network and the nonexistence of the drinking water in the site.

[15] **Nagi, H. M.; Khanbari, K. M.; and Al Sameh, A.** 2012. Estimating Total Area of Mangrove Habitats in the Republic of Yemen using Remote Sensing and GIS; *Faculty of Science Bulletin*; **24:** 75-84.

The targeted area has good fundamental basics of sustainable development goals. The education situation is good as there is one school, and one medical center is also available in the area. A water network for drinking water reaches the houses of the area and some residents uses the water trucks. The sanitation infrastructure in the region is a sewage network but the new homes have a cesspit. Old Fuqm market is the nearest market to this landing site.

The intervention will generate positive impact on the economy and health and enhance the community's protection and resilience. The below figure shows the subproject situation and description in Fuqm area.

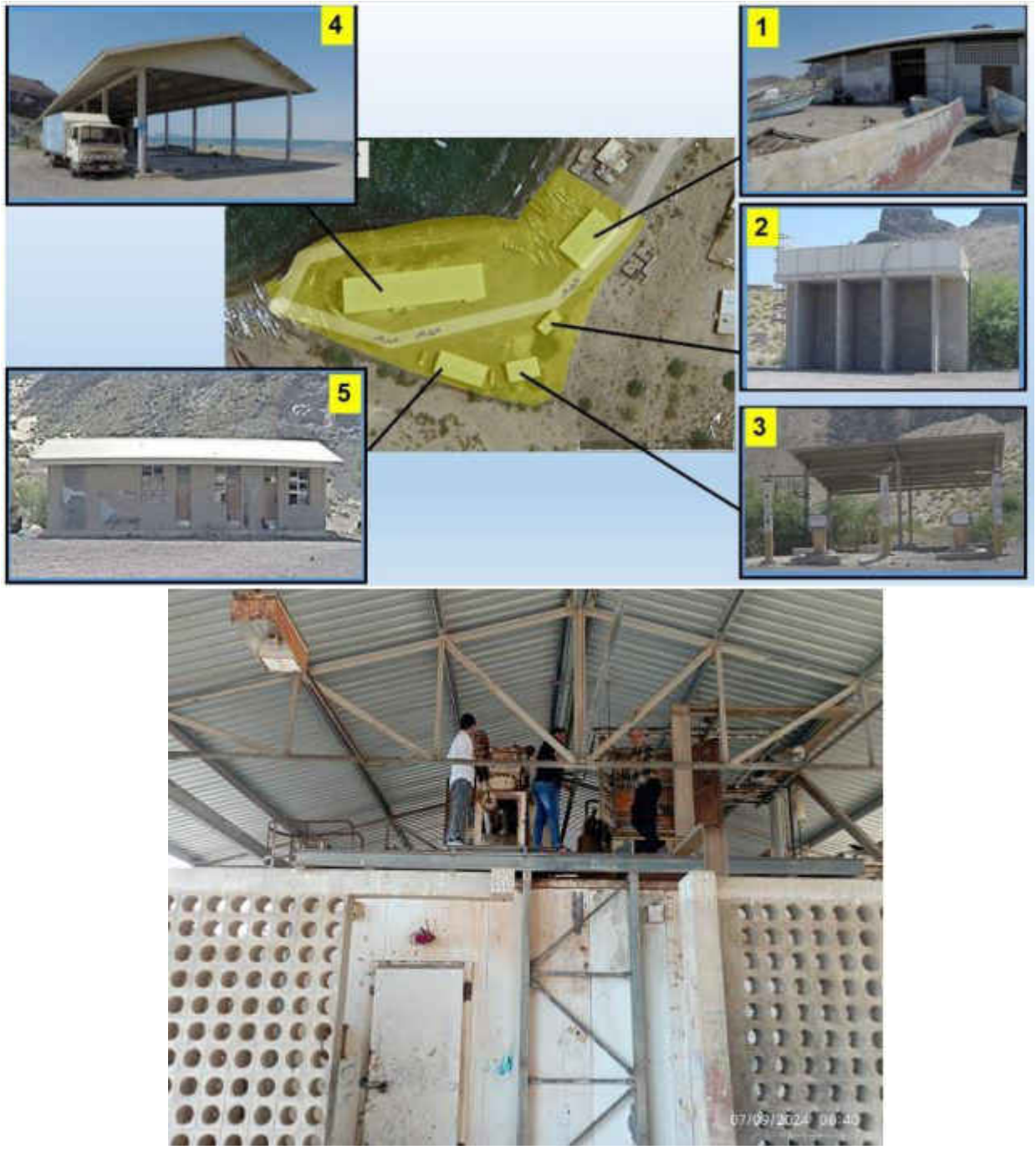


Figure 5 Photos Showing subproject situation in Fuqm area

3.5 Targeted Beneficiaries:

The PWP social team has visited the proposed project at Fuqm area, which is located 30 km far from Aden Governorate. The main objective is to assess the situation and prioritize the needs for Fuqm region. The team introduced local people and local administration to the PWP proposed project, its inception, objective, policy, and interventions to the landing site. The team has conducted baseline survey and collected basic information in addition to taking clear picture about the socio-economic situation in the vicinity.

According to the social survey that was conducted by PWP social mobilized teams, the subproject serves 2 residential neighborhoods in Fuqm area, the population of the Fuqm area which will benefit from the subproject is **3,485** persons out of which **1,720** males and **1,765** females. Particularly, the project will have a direct positive impact on **850** fishermen. The table below shows the total number of beneficiaries segregated by gender.

Table 5 Total number of beneficiaries segregated by gender

Subproject ID	Subproject Name	Benefited Neighborhoods	Direct Beneficiaries (Fishermen)		Indirect Beneficiaries		
			Male	Female	Male	Female	Total
02-9-17557	Rehabilitation and Development of Fuqm Fish Landing Site	2	850	0	1,720	1,765	3,485

Before the sub-project handing over, PWP sub-area manager invites the beneficiaries' representatives to participate in this occasion. The beneficiaries' representative could be the head of the community committee, local council member, district manager, or any entity representing the beneficiaries. The site handing over ends with minutes of subproject handing over between PWP sub-area manager and the contractor with signing of the beneficiaries' representative. During this occasion, the sub-area manager makes awareness to the attended beneficiaries about the importance of the sub-project maintenance to ensure the sustainability of the intervention.

The selection of the community beneficiaries is based on transparent eligibility criteria and consultations with communities and local leaders. Through transparent allocation of funds that is based on national statistics indicators in the governorate and district levels, followed by coordination with local actors and inclusive participatory process, PWP will be reducing conflict over resources. Before implementation and during the participatory consultations with local communities to define the interventions, PWP's teams confirmed the priority needs of the community and ensured that the intervention is in its suitable place.

4 Environmental and Social Impacts Assessment:

4.1 Applicability:

The World Bank Environmental and Social Framework (ESF) is applied because this subproject may trigger moderate environmental and social impacts such as but not limited to residual wastes, child labour, and occupational health and safety (OHS).

4.2 Eligibility

This subproject is eligible for support as per the PWP Environmental and Social Responsiveness (ESR) Criteria **Annex 4**.

4.3 Environmental and Social Screening

An Environmental and Social screening has been conducted by PWP Environmental and Social safeguards staff and designer engineers through a site visit to subproject site, using the screening checklist attached in **Annex 2**. The subproject will have a positive impact on the local communities in the targeted areas. This would include providing Job opportunities during implementation for workers from local communities and will generate positive impacts on the economy in the targeted areas. Potential positive and negative impacts of the subproject are going to be described in the next section.

4.4 Potential Environmental Impacts

The environmental and social impacts could be categorized into two distinct phases. These two phases are the construction phase and the operational phase. The impact significance of the anthropogenic activities that are going to be faced in the proposed landing site on the surrounding environment during both phases are going to be predicted and evaluated. The prediction will be based on the available environmental baseline information of the project area. The construction phase is considered temporary with short term effects, while the operation phase is considered to affect the environment for a long term.

PWP will monitor the environmental and social issues during the implementation of the subproject with the support of the community committee which will be involved in the monitoring, as well as following up the complaints system to ensure that all complaints are received, reported, and resolved quickly.

4.4.1 Potential Environmental Impacts during Construction Phase[16]

The construction works have the potential to cause hindrances and nuisances and temporary disruptions of local activities on the proposed site. It would also cause interferences on the water body within the coastal area. The environmental considerations include the risks of pollution by the construction wastes from the yard, and the risks of accidents during the construction. The construction related impacts could be:

4.4.1.1 Noise Pollution

A minor noise pollution is expected during construction and rehabilitation operations due to the moving machines, trucks that transport construction materials to the site, workers' activities, as well as other activities related to construction.

4.4.1.2 Air Pollution

Emission of particulate matter is expected to be generated during the rehabilitation and construction of the site. Transportation, loading, and unloading of the raw materials and construction waste are going to aggregate dust in the air.

[16] All mitigation measures can be seen in section 6.1

4.4.1.3 Solid, Liquid, and Chemical Waste Generation

Civil works would generate solid, liquid, and chemical wastes from the construction sites. Earth and rubbles from site preparation, excavations, foundations, drained oils from engines, paint containers, etc. are the major sources of wastes generation. As the landing site is already constructed and only preparations are required for developing it, there would be limited waste generation from site preparatory activities. However, a fair amount of construction wastes produced from constructing new guards' room, toilets, etc. is expected.

The wastes resulting from the construction/rehabilitation activities are big threats to the surrounding environment and water bodies. The hygiene and health of the adjacent communities could severely be damaged due to such activities. It is the same way with the manipulation of fine materials such as cement and sand which could have moderate impact on the body. The materials normally used for the construction of infrastructure (concrete, stones) have little negative effects on the environment.

Piles of solid waste that are going to be generated during the construction of the project. Those wastes may include concrete remaining, metal cutting, paper bags, cartons, empty paints containers, broken glass, etc. If solid wastes are not managed properly, there would be a potential for diseases to spread due to the suitable breeding conditions for vectors of diseases.

4.4.1.4 Soil and Seawater Contamination from waste and liquid waste

Construction waste may pollute the coastal area and the sea environment during the implementation period. Liquid waste including accidental oil spills may also pollute the soil and seawater environment. Additionally, sediment particles from construction may get disposed into the seawater causing sea water turbidity and a reduction in visibility. This may in turn impact habitats.

4.4.2 Potential Environmental Impacts during the Operational Phase

Several activities concerning the daily operations on the landing sites including fish processing facilities could generate negative impacts. Those impacts could be:

4.4.2.1 Liquid discharge to sea water reducing water quality and disturbing biodiversity

The most concern about negative impacts that could be generated from the landing site during the operation phase is the discharge of polluted substances into sea water which could lead to marine pollution and deteriorate marine life and habitats. This includes waste and wastewater discharges, spillage caused by fuel and used oil could be major sources of pollution. The major quantity of liquid waste that would be generated daily during the operation phase at the landing site includes sewage and wastewater from fish processing and washing of the marketing yard has the potential to pollute marine water or the soil of the landing site if not managed properly and disposed of untreated. Additionally, fuel storage area and generator area may also contribute to soil and water contamination from leaks.

Leaking petrol, oil derivatives, liquid chemicals or other liquids could be emitted from boats and the generator site and could lead to contaminate the marine waters. This kind of pollution could cause harmful effects and adversely jeopardize the health of human beings as a result of consuming contaminated aquatic fauna. Liquid wastes generated from boats as a consequence of cleaning cisterns and loading holds as well as engine maintenance are other sources of marine pollution if discharged directly to seawater. Waste management at the landing site must be taken very seriously by the landing site beneficiary and users.

4.4.2.2 Solid Waste Disposal

Fisheries sector produces qualitatively and quantitatively variable wastes according to several activities conducted during the operation phase. Domestic wastes, commercial packaging, and fermented stuff, as well as wastes that are generated from maintenance and repair activities. Fishing processing activities generate adverse impacts on the surrounding environment and public health. Organic waste and by-products could find their way to the coastal sea water and need to be managed daily in order to avoid adverse impacts on the environment and public health. Unused and broken fishing gears usually disposed to the shore of the landing sites such as hooks, nets, traps, etc. causing solid waste pollution in the area and disturbing aquatic fauna which may consume solid waste and get trapped in nets. Some measures have to be recommended in the ESMP that would help to reduce the production of solid wastes and by-product.

4.4.2.3 Overfishing and targeting the wrong species

The subproject may indirectly increase risks of overfishing, wrong fishing techniques, and using non-sustainable fishing gear and methods may pose a risk on biodiversity and threatened species. Additionally, fishing during the wrong seasons such as spawning seasons may also decrease the number of fish in the area.

4.4.2.4 Air Emissions

Odor is often the most significant form of air pollution in fish processing. Major sources include storage area of organic wastes, fish drying processes, and odour emitted in the marketing yard if not washed properly on daily basis. Odour control and prevention measures will need to be applied of the purpose of mitigation.

4.4.2.5 Lack of maintenance

Lack of maintenance through operation phase which will lead environmental risks.

4.4.2.6 Mismanagement in energy usage

Increased Operational Costs; high energy usage can result in significant operational costs for the cold chain factory. The cost of electricity or fuel required to power refrigeration systems can be substantial, impacting the overall profitability of the facility.

Environmental Impact: high energy usage contributes to increased greenhouse gas emissions and environmental degradation. The generation of electricity often relies on fossil fuels, leading to carbon dioxide emissions and contributing to climate change. This can have long-term negative consequences for the environment and sustainability.

4.4.2.7 Mismanagement in water usage

Increased Operational Costs; high water usage can result in significant operational costs for the ICE factory, fish preparation, cleaning the auction hall, sinks, showers, ...etc. The cost of water required can be substantial, impacting the overall profitability of the facility.

To mitigate this risk, it should use water-efficient appliances and equipment, reusing grey water from sinks, showers, and other sources for flushing toilets and irrigation, installing water meters to monitor water usage and carry out ongoing monitoring for water quality to ensure it is safe to use, as well as monitor

water resources used regularly after implementing the subproject and monitor any changes in water quantity and quality, and raise awareness staff on ways to conserve water.

4.5 Potential Socio-economic Impacts

The socio-economic impacts of the proposed landing site subproject will be overall positive in terms of their contributions to development, poverty alleviation and the creation of economic opportunities, particularly in the coastal communities. However, each intervention will need to have a full ESIA based on the type of intervention and the site location. The assessment should look at the environmental, social, health, and safety aspects, during construction and operational phases.

4.5.1 Socio-economic Impacts during Construction Phase

4.5.1.1 Positive impacts:

During the construction phase, job opportunity is going to be available for many local individuals, particularly for casual workers. Employment opportunities are a benefit both in the economic and social sense. Several workers including casual labourers, carpenters, electricians, plumbers, *etc*. are expected to work in the landing site from the start of the subproject to the end. Also, semi-skilled and unskilled labour and formal employees are also expected to obtain gainful employment during the period of construction.

There will be gains in the local and national economy. Consumption of locally available materials such as cement, rebar, wood, plumbing, electricity tools, *etc*. will help in increasing the economic situation of the local people and improve government revenue.

4.5.1.2 Negative impacts

The major negative impacts that could be faced during rehabilitation and construction works of the landing site could be:

4.5.1.2.1 Increased Traffic

During the construction phase, roads leading to the project site will serve additional vehicles that are going to be used for transportation of raw materials to the site which can increase the chances of accidents and air pollution.

4.5.1.2.2 Accidents and other Occupational Health and Safety Issues

Working close to a large water body, and sometimes, working within the water body itself could expose workers to major health and safety risks. Works in such risky areas must be carefully planned to mitigate the risk of drowning for instance. Emergency response plan should be developed and emergency response equipment, especially those relating to emergency rescue readily should be made available on site.

Strict compliance with the Labor Management Procedures; applying and following the mitigation measures of this site-specific ESMP and the detailed Contractor-Environmental and Social Management Plan (C-ESMP), which will include measures to address OHS on-site; continuous training and awareness for stakeholders' and workers; and ensuring the use of PPE and security/safety equipment and sites.

Protection of staff on the construction sites should be supported immediately once the works start. Poor protection for the staff could cause discomfort, and nuisances by noise, dust and emitted gases, which does not only lead to deterioration of their health, but also contribute to accidents at work. Lack of training on

the use of hand-held tools and providing staff with protective equipment may lead to unfortunate accidents.

Some of the OHS risk on the site during construction Phase such as: Risks of drowning, breathing problems from dust emissions from excavation and levelling work, handling chemicals (cement, epoxy, oil, and fuel) that may cause skin and eye irritation, physical exhaustion, working during bad weather conditions (heat wave, dust storm, rainy periods), ear disturbance from noisy activities, accidents during materials and equipment transport, lack of toilets and latrines and hygiene, falling from ladder or scaffoldings, work in heights, risk of lifting activities by cranes, injuries while performing construction work using tools and machines, and electrical shocks while performing electrical works, falling in excavated zones, risks during welding works, vehicles running into workers, falling loads on workers work in closed or confined spaces (Water Tank or Septic Tank) if any, and risks related to tree planting.

4.5.1.2.3 Financial exploitation

Financial exploitation including bribes, fraud, or some other form of corruption is also an important risk that may happen during the intervention, so, awareness raising amongst the communities on financial exploitation during subproject implementation is important. The subproject is provided for free, and the beneficiaries should not pay anyone to get benefits of the subproject. Also, raise awareness among PWP consultants and resident engineers that there is zero tolerance for any cases of financial exploitation, as well as raise the awareness of the community committee, workers, and communities on the GM system and how it can be used to report for any financial exploitation.

4.5.1.2.4 Management Issues

Risk of social exclusion of the vulnerable groups (women, youth, people with disabilities, IDPs) in the decision -making process and project benefits. Social conflict due to poor labor management and lack of transparent and non-discriminatory recruitment procedures.

4.5.1.2.5 Child Labor/Forced Labor

According to project ESMF and LMP, no child labor/ forced labour will be hired for subproject activities at all work sites. PWP will ensure that the contractor should not allow any children under 18 years to work in the construction site. All workers will be registered after presenting their documents which verify their age such as IDs or any other available documents. Prevention of child labor will be specified in the tender documents for contractors. Any violation of this section will be strictly dealt with by the PWP.

4.5.2 Socio-economic Impacts during Operational Phase

Generally, the project is expected to produce significant environmental and social benefits in terms of resource conservation, pollution reduction, and improvement of public health, community development and poverty reduction. Negative impacts are expected to be minor, localized, reversible, and could be mitigated if appropriate measures and effective control and management are to be followed. The discussion below summarized both the expected beneficial and adverse impacts related to the proposed project during operation stages.

4.5.2.1 Job Opportunities

The project is expected to create new job opportunities and minimize the unemployment problem for the local people. Employment opportunities are one of the long-term major positive impacts of the project

during the operation and maintenance of the proposed project. These will involve security personnel, solid waste management staff, and the persons who are going to be employed within the proposed project.

Also, it will support fishing communities with the required facilities that help them increase their fish quality such as ice storage and clean water network. This will raise their income and improve their economic and livelihood situation.

4.5.2.2 Occupational Health and Safety Issues

Health and safety of fishermen and other laborers working in the landing site should be guaranteed. Working in such unhealthy areas where bacteria and other diseases that are spread all over the landing site must be carefully considered. During operation phase of the fish landing facilities, outbreaks of infectious disease such as diarrheal diseases and their consequences as cholera and dysentery, in addition to intestinal parasites are common among fishermen, vendors and other workers. This is inevitable when unhygienic conditions and poor sanitation are prevailed. Furthermore, risk from drowning and fishing during bad weather and sea storms seasons, as well as the fire risks from generator and fuel.

Awareness programs should focus on providing the trainee with knowledge that illustrate the benefits of proper fish handling and its impact on health and economy. Other programs could also help fishermen to acquire and build necessary skills and good practices to raise quality and reduce manifestations of fish spoilage according to scientific and health standards with high efficiency.

4.5.3 Land Acquisition/ Use Physical and/or Economic Displacement

Fuqm Landing Site was built on public land that belongs to the Fisheries Authority. The landing site is surrounded by a fence around its components, reflect the ownership of the land to the Fisheries Authority. Based on the attached official letter from the Minister of Agriculture and Fisheries to the United Nations Development Program (UNDP) office stating that the fish landing center in the Fuqm area belongs to the General Authority for Fisheries in the Gulf of Aden for proof of ownership. So, the intervention does not require any kind of land acquisition, nor physical and/or economic displacement either permanent or temporary that could affect the rehabilitation and reconstruction works, as it will be implemented on existing public property. Please refer to **Annex 6** for the land document.

Through stakeholder engagement and public consultation, PWP reached social agreements. The social agreement was concluded between the Public Works Project on the one hand and representatives of the local community committees (CCs) and the local authority on the other hand. This agreement includes the conditions and responsibilities between the two parties for the purpose of smooth implementation of the subproject without obstacles, with the commitment of the local community representatives to facilitate and resolve any issues that may arise during Implementing the subproject and after implementation as well, such as facilitating the work of technical and community studies, as well as facilitating implementation procedures after approving the subproject by facilitating the work of the implementing contractor at the agreed upon project site, as well as to operate the subprojects for the purpose which it was created for (Public interest). The signatures and stamps of parties from the targeted communities and local authorities to implement this subproject, are provided in **Annex 6** of the same document.

4.5.4 Resources and Services' Access Restriction

The Public Works Project is always keen on not stopping any workers or businessmen from work due to construction or rehabilitation works, as well as it is keen on their safety from the dangers of equipment and project activities. Therefore, no restrictions will be imposed on services or resources in the sub-project

except for a short period in order to ensure the safety of fishermen or consumers (when using dangerous heavy equipment in the project, drilling activities, etc.). Execution will follow effective procedures to avoid complete closure of the position. The works will be implemented in phases, in addition to other mitigation measures, such as informing the public of implementation schedules. There will be close coordination with local authorities and communities to ensure smooth implementation and avoid any potential impacts on services and access to resources. There will be strict control and management of the movement of hunters and consumers through restricted areas to delimit borders to prevent unauthorized access by anyone using barricades, barriers, fencing or lighting as appropriate and in coordination with the management of the canter. The center consists of creating new facilities and developing some other existing facilities; thus, the new facilities will be constructed while allowing fishermen and others access to other existing facilities. Also, with regards to the auction hall, one will be restricted while the other will remain open and authorized for use until the auction hall is ready.

4.5.5 Gender and Social Related Issues

. This will include people with disabilities, females, males, and children.

4.5.5.1 Gender

PWP has ensured gender equity in the subproject's cycle as a core principle for the subproject's success. PWP is mainstreaming Gender in all aspects of the subproject cycle as well as raising awareness amongst the communities both male & female on Job opportunities during subproject implementation. The total number of targeted beneficiaries for the sub-project is 3,485 including 1,720 are males and 1,765 are females. The total number of fishermen who are benefited from the landing site are 850 individuals. PWP has engaged and involved the beneficiaries in the consultation process to ensure their concerns and feedback are taken into consideration without any discrimination.

Women play a significant role in the region, as some women are employed in government positions in sectors such as healthcare and education. Additionally, they also work in the private sector, including beauty centers. Most women in subproject area are works on take care of the children, house duties. It's known that women don't participate in the fishing process, but they contribute to activities like cleaning, drying, and preservation. PWP will give chances for women to work in the sub-project as a workforce according to their physical ability and according to the culture in the sub-project area. Women who meet requirements have been encouraged to participate as supervisor engineers as well as contractors and can get into the tender competition according to the WB procurement procedures for works and supplies.

The consultation was conducted on 12 September 2024 with 25 males and 20 females from the local communities. Also, PWP established the community committee in the targeted areas by sending the social consultants' teams (male and female) and conducting focal groups discussions including women and men to enable participation in the electing of the community committee. The elected community committee and their members including women and men consisting of 3 males and 3 females, are participated in the decision-making, need assessment, and public consultation. Also, they will participate in the monitoring of implementation, receiving the subproject, as well as operation and maintenance. Furthermore, according to SFISH's ESMF the training, and capacity building related to sustainable fishing practices, and maintaining hygiene and sanitary aspects to maximize the market values will be conducted by TVET centers, and Yemeni Fishery Exporters' Association.

Based on the screening process, there was no gender discrimination or inequity as males, females and people with disabilities were already considered as beneficiaries when designing and implementing the subproject in jobs suitable for them, such as guarding, cleaning and office work.

4.5.5.2 Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH)

Due to potential risk of gender discrimination and incidents of SH/SEA, PWP raised the awareness of community members, both male & female, and persons with disabilities regarding Sexual Exploitation and Abuse(SEA)/ Sexual Harassment(SH) during the public consultation process as well raising community awareness on Grievance Mechanism (GM) processes and how it can be used to address complaints resulting from project activities including gender discrimination and incidents of SEA/SH. report SH/SEA cases[17].

The awareness-raising sessions were conducted for 25 males and 20 females as well as for members of elected community committees both male and female. Such incidents shall be treated with the highest level of confidentiality and anonymity in a survivor-centered process. To ensure effectiveness, repeated mandatory awareness training and sensitization sessions about refraining from unacceptable conduct towards local community members, specifically women, will be conducted by PWP through supervisor engineer and subarea staff for all contractors and workers. This also includes informing workers about the national laws that make sexual harassment, and sexual exploitation and abuse a serious and punishable offense.

4.5.6 Conflict sensitivity and Do No Harm

PWP has its conflict sensitivity manual to manage any conflict cases during the projects cycle. Conflict sensitivity is given high priority and integrated into decision-making criteria in project approval. PWP adopts specific approaches when targeting the beneficiaries and defines their prioritization. Targeted communities provided their consent, acceptance, and satisfaction for the chosen interventions. No concerns were raised by the communities against the subproject activities. Public consultation included ensuring Conflict Sensitivity screening. In case of Conflicts that cannot be resolved, the Subproject will be rejected. Also, Conflict sensitivity is taken into consideration in the monitoring and reporting processes during the implementation. Furthermore, the elected community committees are trained to manage, monitor, and report any conflict that might be generated during the project cycle. Generally, the subproject will help to build the resilience of the communities and improve their living conditions positively.

5 Environmental and Social Impact Analysis Plan and Mitigation Measures

This Section consist of a set of mitigation, monitoring, and institutional measures to be taken during the construction and operation of the project to eliminate adverse environmental and social and OHS impacts, offset, or reduce them to acceptable levels. On the other hand, the ESMP is meant for maximizing the positive impacts associated with the project activities. The ESMP for this subproject is based on the potential impacts that have been investigated during this current assessment.

Environmental and social impact analysis plan and mitigation measures will define the responsibilities of contractors and role players towards different environmental and social issues.

[17] World Bank Good Practice Note Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) in Investment Project Financing involving Major Civil Works https://thedocs.worldbank.org/en/doc/6f3d9ddc6010c4221315dd1282958e41-0290032022/original/SEA-SH-Civil-Works-GPN-Third-Edition-Final-October-12-2022.pdf

Environmental and social impact analysis plan and mitigation measures will also include the actions needed to implement these measures, which is illustrated in the below table.

5.1 Environmental and Social Management Plan

Table 6 Environmental and Social Risk Managament Plan table

Project phase	Potential Risks /Impacts Factor	Mitigation Measures	Personnel / Institution Responsible for Execution	Estimated Cost
Environmental Impacts				
Implementation phase	Air pollution due to dust from activities and gas emissions from machines	• Spray the work area with water regularly to reduce the dust. Water spray should be done efficiently to avoid wasting water. Water spraying can be carried out by using sea water or greywater if available or rainwater if possible. • Use dust sweeping methods to avoid wasting water in dust suppression. • Avoid working during dust storms and windy days. • Ensure workers wear masks. • Material loads must be suitably secured/covered during transportation to prevent the scattering of soil, sand, materials, or dust[18]. • Properly cover waste during transportation. • Exposed soil and material stockpiles must be protected against wind direction and the location of stockpiles shall take into consideration the prevailing wind direction. • Maintain machinery in good working conditions to minimize emissions including exhaust emissions of CO, NOx, and fumes. • Provide adequate protective wear/gear for workers, and equipment must be maintained regularly to avoid any emissions. • Offer good practice awareness to workers to turn off vehicles and machinery when not in use.	• Contractors	N. A
	Loud noise and severe vibration are caused by machines and vehicles.	• Avoiding or minimizing transportation through or processing material in community areas (like concrete mixing). • Machinery must be maintained regularly to avoid exceeding noise emissions from poorly maintained machines. • Limit noisy activities to normal daylight hours.	• Contractors	N. A

[18] WBG General EHS Guidelines as good practice references are used during the implementation as Guidelines.

		• Limit vehicle speed at critical locations (Limits of 10, 15 or 20 mph may be appropriate depending on the vehicles used, site layout and hazards). • Provide workers with ear mufflers. • Measures to reduce noise to acceptable levels must be implemented and could include silencers, mufflers.		
Implementation phase	Soil contamination from accidental Oil spills and from liquid waste	• Properly store all types of waste and hazardous chemicals if any in insulated areas and provide secondary contaminated storage areas to avoid spillage and away from runoff areas and water zones (i.e. oil). • Properly store chemicals (i.e. oil and cement) according to their Material Safety Data Sheets (MSDSs). • Ensure oil change, machine maintenance or mixing cement is done at designated insulated areas by concrete away from the soil, water areas, and drains. • Carry out machine maintenance and oil change at service centers if present. • Only use well maintained equipment to avoid potential leaks and perform regular maintenance and maintain a machine maintenance log. • Oil change and maintenance must be handled by trained personnel. • Construction waste should be stored and handled in designated areas away from the soil and water runoffs. • Avoid working during bad weather seasons, and dust storms and during rainy seasons. • Ensure the presence of spill prevention kits and remove any spills immediately. • Provide training on environmental safety measures and hazardous materials and waste management measures. • Ensure the presence of spill prevention kits in case oil spills occur from machinery used. • Store oil in secondary containment. • Properly label the chemicals and materials. • Only use trained workers in handling storing and disposing chemicals and materials and disposal should be done via a certified contractor. • Provide training on environmental safety measures and hazardous materials and waste management measures.	• Contractor • Resident Engineer	N. A

Implementation phase	Probability of an archaeological discovery during the activities	• Ensure to stop the work in the discovery area and inform the Antiquities Authority and the local authority. • Ensure to prevent seizing any archaeological items and deliver them to the Antiquities Authority with an official report. • Ensure that awareness sessions are held for all workers on the importance of archaeological finds and report any archaeological items that are found during the implementation of project activities. • Store oil in secondary containment. • Properly label the chemicals and materials • Only use trained workers in handling storing and disposing chemicals and materials and disposal should be done via a certified contractor	• PWP • Contractor • Resident Engineer • Community Committee	N. A
Implementation phase	Solid and liquid waste produced by workers (trash and plastic bags) accumulates and pollutes the environment and stones waste accumulation and soil excavation	• Ensure that workers regularly collect all solid trash in enclosed bags at inaccessible areas to animals and transport them to the designated landfill or dispose of it in a proper way that does not impact the environment in coordination with the local authority. • Ensure good housekeeping practices at latrines. • Ensure no wastes are stored near wadis or runoffs and ensure regular disposal by certified contractors. • An appropriate mechanism was agreed upon with the local authority for the management of waste resulting from the excavation to be transported to pre-designated areas. Dust residues that may be produced are moved to the designated areas. • Attach the waste receipt from the relevant landfill authorities. • Properly covering trucks that transport collected waste to avoid spillage during transportation. • The Contractor's staff should be trained in waste handling.	• Community Committee • Contractor • Resident Engineer	N. A
	Hazardous materials/waste	• Ensure proper storage of hazardous materials and wastes. Any potentially hazardous materials or wastes will be stored, handled, and disposed of according to their Material Safety Data Sheets. • Ensure that hazardous wastes (i.e., oil, paint and epoxy containers, etc.) are properly stored and insulated away from drainage areas and	• Contractor • Resident Engineer	N. A

		runoffs, managed and disposed of safely and legally by certified contractors. • Ensure the presence of spill prevention kits if possible and remove any spills immediately. • Ensure workers do not spend long exposure times to chemicals. • Ensure hazardous wastes and materials are handled by trained workers. • Use well-maintained equipment to avoid leakage.		
Implementation phase	Sewage and liquid pollutions discharge to sea water. And Risks on coastal and marine habitats and related biodiversity	• Establish a liquid waste management plan from all the landing site components and proper disposal at authorized areas by EPA and other relevant authorities. • Regular monitoring and inspection should be carried out on the temporary latrine. • Ensure providing special containers to dispose of the used oil from the vehicles and equipment at work site, disposed of safely and legally in coordination with local authorities. • aware contractor and the implementation staff about the sensitivity of the marine environment and the importance of not pollute the sea and the suitable ways and places to dispose the liquid waste to its places. • Ensure regular maintenance by trained workers. • Ensure designs the fuel station and gas / fuel storage area involve suitable concrete base and far away from sea water area. • Ensure all chemicals are stored, handled and disposed according to their materials safety data sheets by trained workers. • Carry out regular biodiversity monitoring and inspection on the status of habitats (seaweed, and other organisms present in the area) via snorkeling or diving. This could be done in collaboration with the environmental protection authority (EPA). • Carry the construction work outside of biodiversity sensitive seasons (fish spawning seasons etc.) This could be done in collaboration with the environmental protection authority (EPA).	• Community committee, • Local Authority • Fish Association • Contractor • EPA	N. A

Implementation phase	No latrines near the project site and workers may have to practice open defecation.	• The contractor can finish the existing buildings such as guard's rooms and toilets including cesspit to be used for workers during implementation period, hand-washing basins, and supplying them with water and soap. • The pit will be vacuumed to remove the sludge and wastewater which will be disposed at approved place by local authority in nearest sewerage network during implementation if it becomes full. • In case the presence of women workers, ensure latrines are separated by gender and with the same facilities and capable of being locked from inside. • Ensure soap and water are always present in rented houses with latrines. • Ensure latrine areas are properly insulated, and waste is managed and removed regularly. • Ensure proper collection and disposal of sewage by workers.	• Contractor • Resident Engineer	N A
	Accommodation for non -resident workers	• Skilled workers will be hired from neighboring areas if not available from targeted area. • In coordinate with PWP and community committee, the contractor will finish the existing buildings such as guard's rooms and toilets to be used for workers accommodation in terms of minimum space 4m2 per worker. • provide good canteen and cooking and laundry facilities. • Allow for regular breaks and provide permanent water supply.	• Contractor • Resident Engineer • PWP • CC	N.A
	Public access to worksite	• Install fences, barriers, dangerous warning/prohibition sites sings around the construction area which showing potential danger to public people. • Place appropriate warning and directional signs at areas where construction is taking place. • Limit, in coordination with traffic authorities, the movement of heavy vehicles on roads/lanes used by the public during traffic peak hours. • Erect removable barriers. • Implement regular inspection by site guard. • awareness of the public about risks and hazards at the project construction areas before the commencement on site. • Ensure all types of wastes are removed appropriately. • Raise awareness on good hygienic practices.	• Community Committee • Contractor • Resident Engineer	N. A
Social and community Impacts				

Implementation phase	Child labor/forced labor risk	• Ensure child labor is not permitted; all workers will be verified to be over 18 years old of age. • Verifying age by checking IDs and other available documents. • Ensure a Labour Log is available, and all workers are registered. • Avoid buying raw material from suppliers that employ children through checking the requirements and policies of the primary supplier, reviewing labor conditions and labor log of the primary supplier and communicating the requirements of PWP and UNDP regarding child labor to the supplier. • Mandatory and repeated training and awareness-raising sessions for refraining child labor. • Ensure the contractor looks for a different supplier who meets the requirement if current supplier fails to meet the requirements.	• Contractors. • Resident Engineer. • PWP Safeguard Officer. • Community Committee.	N.A
	Sexual harassment, sexual exploitation and abuse (SEA/SH)	• Mandatory and repeated training and awareness-raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women. • Informing workers about national laws that make sexual harassment, sexual exploitation and abuse a punishable offense that is prosecuted. • Raise awareness of the GM system and how it can be used to report any SEA/SH cases. • All workers fully understand and sign the CoC and to adhere to it.	• Contractor • Resident Engineer • Community Committee • Gender Focal Point	N. A
Implementation phase	Discrimination against women and persons with disabilities when selecting beneficiaries	• PWP adopts a non-discrimination policy that ensures a non-discriminatory and inclusive manner, including women and persons with disabilities when selecting subproject. The policy also ensures the inclusion of women in community committees as well. • Provides opportunities for women and other vulnerable groups to be consulted in a place and time convenient to them and which allows them to freely express their views.	• PWP Subarea Staff • Community Committee • Gender Focal Point[19]	N. A

[19] The Gender Focal Point is responsible for conducting Public Consultation, ensuring women participation in the selection of subproject, consensus on the subproject, site location, establishing Community committees including women representatives, resolving complaints related to GBV, SEA issues and monitoring during construction phases. PWP staff participate in the public consultation, discuss details, raise awareness on SEP, and discuss stakeholder concerns vis a vis the subproject community committee's formation and collection of community data / profiles. Community committee is responsible for raising the awareness between society, helping in solving problem and obstacles, accordingly, supporting the monitoring in sites and helping to solve GRM complaints in site as possible.

Implementation phase	Lack of workers' awareness and knowledge on respecting local community cultures, and social safeguard issues on SEA/SH.	• Implement a systematic awareness campaign to increase workers' awareness of local community tradition and cultures and the need to respect them. • Contactor and its workers to sign the Code of Conduct. • Ensure workers respect and adhere to the Code of Conduct (CoC) for the local community's protection and do no harm. • GM system in place to handle any complaints on Gender, SEA/SH.	• Contractor • Resident Engineer • Community Committee • Gender Focal Point	N. A
	Financial exploitation of community or beneficiaries	• Inform the beneficiaries that the subproject is provided for free, and they should not pay anyone to get benefits of the subproject. • Raise awareness among PWP consultants and resident engineers that there is zero tolerance for any cases of financial exploitation. • Raise the awareness of the community committee, workers, and communities on the GM system and how it can be used to report any financial exploitation. • Inform consultants, resident engineers, and the community about PWP regulations that make financial exploitation a serious contravention. • Ensure the GM is operational, and community/beneficiaries are aware of its existence and receive regular training on how to use it so they feel comfortable using it.	• PWP • Community Committee	N. A
Implementation phase	Social conflict due to poor labor management and lack of transparent and non-discriminatory recruitment procedures.	• Coordination with the community council regarding the employment of skilled and unskilled workers from the community benefiting from the subproject as a priority and in a transparent manner. If skilled workers are not available, they can be recruited from neighboring areas. • Prepare and publicize in the community a transparent recruitment procedure. • Ensure the GM is operational, and community/beneficiaries receive regular training on how to use it and of its existence so they feel comfortable using it.	• Safeguard Officer • GM officer	N.A
	Temporary restriction on the use of the landing site	• This will be mitigated by implement rehabilitation works during stopped fishing seasons (autumn and winter), as well as work activities will be implemented section by section in coordination with fisheries associations and community committees.	• Community Committee • Contractor • Resident Engineer	N. A

Implementation phase	Safety and nuisance hazards such as noise, congestion and increased accidents from higher vehicular traffic from/ to construction sites and transporting of materials.	• Contractor Prepare a traffic management plan (TMP) as part of the C-ESMP depending on the traffic volume and the condition/nature of local routes to avoid accidents risk. • Carry out community consultations with local authorities and the community before public works commence. • It is strictly forbidden to transport materials for construction during rush hour. • Do not start any maintenance activities before the installation of traffic safety and control safeguards. • Erect safety signage at appropriate places. • Promote safe driving practices among drivers. • Implement GM.	• Contractors	N. A
	Community dissatisfaction of Sub-project activities and Community participation	• Hold public interviews to address concerns/comments about construction and bypass issues. • Inform public/beneficiaries before activities commencement about GM. • Install an on-site, identification stand, containing how to lodge complaints in the GM. • Ensure that Complaint forms are available on the site.	• PWP • Resident Engineer • Community Committees	N. A
Implementation phase	Damage to existing infrastructure (phone networks, electricity, etc.)	• Coordinate with local authorities on network lines to avoid their disruption. • Any damage will be rehabilitated by the contractor. • Be sure to identify the locations of the ground services extensions and coordinate with the relevant authorities to provide the plans and their delegates to come to the site and put signs on them before starting the excavation work.	• Contractor • Resident Engineer	N. A
	Complaints Occurrence	• GM should be established by the Contractor and PWP. • Inform the public about GM contact information and the method of submitting complaints. • Details of complaints received should be incorporated into the audits as part of the monitoring process. • All complaints must be addressed quickly within the timeframe given in the GM.	• Contractor • PWP	N. A
Operational and Maintenance Phase				

Operational & maintenance phase	Liquid waste discharge to sea water	• Establish a liquid waste management plan for all the landing site components and ensure perfect reflection in the intervention designs like for the selling yard, toilets, … *etc*. • Ensure proper disposal of wastewater and other types of wastes at authorized areas in coordination with EPA and other relevant authorities. • Regular maintenance and inspection should be carried out on the septic tank. • Ensure providing special containers to dispose the used oil from the generator and give awareness for the locals about its important. • Fishing boats' engines, Vehicles, and equipment such as petrol pumps must be subjected to regular maintenance to avoid any leakage of hazardous liquids. • Ensure that site machine repair workshops and petrol pump area have impermeable floors to confine pollutants. • Ensure the presence of spill prevention kits near gas station. • Ensure refueling of boats is done in an environmentally safe manner (i.e enclosed surface to prevent leaks from boats into the sea). • Remove spills right away. • Implement a penalty fee for boats/fishermen who release waste into the sea. • Inform the public of maintenance times. • aware fishermen about the sensitivity of the marine environment and the importance of not pollute the sea and the suitable ways and places to dispose the liquid waste to its places. • Handing the sub-project to the respective local authorities. • Sign an agreement with local authorities on the maintenance requirements. • Ensure regular maintenance of project components and septic tanks.	• Community committee, • Local Authority • Fish Association	N. A
Operational & maintenance phase	Air Emissions	• Cleaning regularly the selling yard to avoid the bad odors. • Disposing regularly the organic waste • Maintain machinery in good working conditions to minimize emissions including exhaust emissions of CO, NOx, and fumes. • Provide adequate protective wear for workers, and equipment must be maintained regularly to avoid any emissions. • Offer good practice awareness to fisheries to turn off boat’s generators and electric generators when not in use.	• Community committee, • Local Authority • Fish Association	N. A

Operational & maintenance phase	Solid Waste Disposal	• Insert solid waste management plan form all the landing site components and ensure perfect reflection in the intervention designs like for the selling yard, toilets, … *etc*. • Regular maintenance and inspection should be carried out. • Ensure providing special containers to dispose the solid waste and give awareness for the locals about its important. • Inform the public of maintenance times. • Aware fishermen about the sensitivity of the marine environment and the importance of not pollute the sea and the suitable ways and places to dispose the fish gears to its places. • Handing the sub-project to the respective local authorities. • Sign an agreement with local authorities on the maintenance requirements. • Ensure regular maintenance of fish landing. • Disposing regularly the organic waste in accordance with agreement with local authorities.	• Community committee, • Local Authority • Fish Association	N. A
	Biodiversity Conservation and risks from overfishing and on fish stocks	• Proper management of fishermen by using eco-friendly fishing gear and specifying fishing season and managing the carrying capacity of the area. • Implement a fishing season away from the spawning season and sensitive fish seasons (this can be managed with fish authorities and EPA) • Raising awareness of fishermen about the importance of marine habitats and measures used for conservation of marine species including the negative impacts of overfishing. • SFISH includes project components on fisheries management which will empower and capacitate the relevant authority to decide and impose fisheres conservation measures to limit overfishing of depleted fish species. • • Encourage the use of mooring anchorage instead of traditional anchors. • Carry out regular biodiversity monitoring and inspection on the status of habitats (organisms present in the area) via snorkeling or	• Community committee, • Local Authority • Fish Association	N. A

Operational & maintenance phase		diving. This could be done in collaboration with the environmental protection authority (EPA). • Allow fishing in specific seasons outside of biodiversity sensitive seasons (fish spawning seasons etc.) This could be done in collaboration with the environmental protection authority (EPA) and fishing authority. • Restricting certain forms of fishing at specified periods of the year to protect spawning fish and youngsters in coordination with local Environmental Protection Authority (EPA). • Individual quotas for fishermen depending on catch limitations in coordination with EPA. • In the broader context, the UNDP is engaged in other major subcomponents in this project to address fish stock management. These subcomponents are identifying and addressing institutional gaps in order to build the national institutional capacity for sustainable fisheries management. • Raise awareness to fishermen on sustainable fishing measures and techniques and implement penalties in case of non-compliances • Raise awareness to fishermen on vulnerable species and how to handle and release them in case they were accidentally caught and implement strict penalties in case of non-compliances.		
Operational & maintenance phase	Lack of maintenance for subproject	• The General Authority for Fisheries (GAF) and fisheries associations are committed to maintaining the intervention. • Raise the awareness of the fishermen represented by local authorities and communities' committees. • Sign an agreement with local authorities and communities' committees to ensure subproject maintenance and sustainability of the project. • Inform the beneficiaries about maintenance periods and times beforehand. • Training a maintenance team from fisheries associations. • Regular maintenance and inspection should be carried out.	• GAF • Local Authority • Fish Association. • Community Committees	N. A
	High energy usage	• Use of energy-efficient appliances and equipment, such as ENERGY STAR-certified products, will significantly reduce energy consumption. These devices are designed to operate more efficiently, using less energy while providing the same level of functionality.	• GAF • Local Authority • Fish Association.	N. A

Operational & maintenance phase		• Enhancing insulation and sealing air leaks will improve energy efficiency by reducing heat transfer and minimizing the need for cooling. • using energy-efficient lightening LED bulbs • Regular maintenance of energy-consuming systems and equipment will ensure they operate at optimal efficiency levels, reducing energy consumption and waste. • Raising awareness about energy conservation and promoting energy-saving behaviors.	• Community Committees	
	High use of water	• Using water-efficient appliances and equipment. • Reusing grey water from sinks, showers, and other sources for flushing toilets and irrigation of treated. • Installing water meters to monitor water usage and carry ongoing monitoring for water quality to ensure it is safe to use. • Monitor water resources used regularly after implementing the subproject and monitor any changes in water quantity and quality. • Raise awareness staff on ways to conserve water	• GAF • Community committee, • Local Authority • Fish Association	NA
	Failure to address complaints	• The GM should be established and managed by the community committee during the OM phase in coordination with community leaders and the local authority. • Inform the public about GM contact information and the method of submitting complaints. • Respond to and address complaints quickly and in a transparent manner.	• community committee / community leaders.	

5.2 Occupational and Health Safety Plan:

Table 7 Occupational and Health Safety Plan

Task with risk possibilities	Hazard	Risk degree			Risk mitigation measures	Risk degree after			Responsible	Estimated Cost
		H	M	L		H	M	L		
General Requirements (OHS general actions for all activities of the sub-project)					• (General): Conduct comprehensive training about occupational and health safety (OHS) aspects before the beginning of the sub-project implementation by PWP this includes (hazards associated with the activities, mitigation measures, and workers' responsibility as well as disciplinary action against any violation. • (General): Weekly repeated awareness sessions on OHS hazards associated with the activities, mitigation measures, and workers' responsibility as well as the disciplinary action against any violation. • (General): Workers sign that they have received awareness about the implementation of the activity, and that they understood risk assessments that help mitigate, minimize, and avoid potential risks. • Conduct daily toolbox talks for workers. • Integrate the OHS measures in the activities' detailed implementation plans (DIPs) to ensure the implementation of OHS measures on time. • Activation of the Permit to Work (PTW)20 system for the activities of the moderate and high risk. • Ensure the right authorization procedures are in place for the permit to work in the worksites. • (General): Ensure maintain occupational health and safety system in the site to protect workers from hazards and risks. • (General): Workers sign that they have received awareness about the implementation of the activity, and that they understood risk assessment that help mitigate, minimize and avoid potential risks. • (General): Ensure the necessary personal protective equipment (PPE) is always worn by workers and they get it for free. • (General): Involving the community committee in the monitoring of safety procedures and reporting any risks. • (General): Emergency response plan to be in place with details of the nearest hospital or medical centre, responsibilities are understood for all works, first aid boxes are available and a list of trained first aiders is posted and known by all workers. • (General): in case activities at height take place, provide safety ropes for workers and fall protection devices. • Ensure effective monitoring of the worksites including inspections and spot checks to ascertain compliance with OHS measures. • Conduct regular inspections for any unsafe acts, near misses, or accidents.				• Contractor • Technical Resident Engineer • Safeguard Officer	provide safety equipment for workers 18,000 $, 4% from the intervention cost

[20] A work permit is a permit that gives the contractor approval to begin carrying out the activity specified in the permit after reviewing the risks and control procedures for this activity.

	• Discover the root causes of any non-compliance cases or/and accidents occurring and suggest corrective actions to avoid reoccurring. • Provide training on handling, storing and disposing cement and any type of chemicals. • Wear high rubber boots to protect from snake bites. • Ensure no work is conducted during bad weather conditions (i.e., sandstorms, dust storms, rainy seasons, etc.) • In case ladders are used, inspect their stability before standing on them. • In case scaffolds are used, inspect their stability and be well insulted by a competent person prior to using. • Ensure workers are trained on handling, storing and disposing chemicals including cement and are aware of its health hazards. Additionally, ensure that workers handle and store and dispose chemicals and cement according to its MSDS. • Aware workers on the risks and hazards of water, enabling them to identify and avoid dangerous weather conditions and unsafe waterbodies. • Adequate supervision to prevent swimming and provide a trained lifesaver. • If working from height is present, ensure the worker adheres to full body harness, fall prevention devices and head helmets. • Using gunpowder is prohibited in all activities and interventions. • Ensure proper speed limit and driving safety measures are adhered to including wearing seatbelts during transferring equipment and materials to and from the project site. • Add warning signs at safe distances to warn road users and prevent vehicles from running into workers. • Provide life and health insurance to all project workers. • Allows regular breaks and provide drinking water for workers. • Ensure providing latrines equipped with soap and water and resting areas for workers. • Report major accidents to the UNDP within 24 hours and to the WBG within 48 hours by PWP HQ. • Workers have the option to remove themselves from unsafe working conditions without any reprisals. • Ensure antivenom kits are present on site. • Presence of first aid kit on site and trained workers to perform first aid.									
Excavations and backfill works	• Workers fall from the edge of the ’excavated sites. • Excavation sides get demolished or soil slides during excavation or excavation residues slide on the worker during excavation. • Dust, sand and small parts volatilize while excavating in sandy soil.		X		• Wearing high visibility clothing in the worksite. • Site preparation and proper organization of the stacked material in order to ensure the safety of workers during work. • Install warning signs, barricading of working area with safety tapes and fencing to prevent unauthorized access of public and pedestrians to openings, excavation, and backfilling work areas in particular and the work sites in general. • Conduct inclined excavation if the soil is collapsible or saturated with water. Also, the			X	• Contractor • Technical Resident Engineer • Workers	Part of PPEs cost first item

	• Limb injury while using drilling and excavation equipment. • Exposure to hot sun during drilling causes headache. • Misuse of equipment necessary for excavation or removal of waste and the like. • Serious accidents due to work in proximity of heavy equipment in the workplaces such as Graders, Compactors, trucks…etc. • Limb injury while using drilling and excavation equipment. • Exposure to hot sun during drilling causes headaches • Misuse of equipment necessary for excavation or removal of waste • Exhaustion and injuries from excavation activities. • Falling, Slipping, tripping from excavated areas and or bad site arrangements.				sides of the excavation shall be supported with timbering work if required. • Use appropriate equipment for levelling and excavation and pay extra attention while using mechanical excavators. • Removal of falling blocks objects or sliding soil in any area above the level of excavation in and around the pit. • Ensure collection and transportation of the excavation residues to designated landfills by local authority right away. • Safety gloves, safety boots, dust masks, eye googles, protective helmets, protective boots and all necessary PPE to mitigate the risks of conducting the activity are to be used by workers at all times on-site. • Wear ear mufflers when using noisy equipment. • Deposit soil extracted 0.80 meter away from the edges. • Maintenance of all work equipment before starting the work such as digging tools, drilling, Graders, Compactors, trucks…etc. • Ensure skilled workers are hired for this activity. • Provide regular breaks and potable water supply. • Workers have the option to remove themselves from unsafe working conditions without any reprisals. • Always keep safe distance with work equipment including Graders, Compactors, trucks…*etc*. • Limit the time for workers working on vibrating tools. • Add warning signs and barriers around excavated zones.					

					• Periodic inspection to ensure that mitigation measures are implemented and stop any unsafe act or unsafe situation. • Involving the community committee in the monitoring of safety procedures and reporting any risks. • Check weather forecast prior to commencing any work and avoid bad weather seasons/days. • Ensure good housekeeping and site arrangement practices are followed.					
Mixing the concrete materials	• Serious injuries due to contact with cement mixture equipment when it is working. • Blisters on the hands due to the cement component impact during the mixing and direct contact with liquid cement. • The bad handling with cement mixing causing eye irritation.		X		• The issuance of the permit to work by the resident supervisor, allowing the commencement of work. • Wearing high visibility clothing in the worksite. • The use of professional labour force to implement activities that are obligatory while mixing and pouring concrete. • Use safety gloves while loading, transporting, and distributing sharp materials and stones while building. • Long, rubber safety boots shall be worn while mixing concrete. • The use of the professional workforce to carry out mandatory activities while mixing and pouring concrete. • Wearing long, rubber safety boots are obligatory while mixing and pouring concrete. • Ensure that concrete mixing equipment is in good condition. • Workers are aware of concrete mixing equipment risk and keep safe distance during its movement and rotation. • Locate the cement mixer equipment on firm level ground to avoid collapse during operation, and it away from traffic.			X	• Contractor • Resident Engineer • Workers	Part of PPEs cost first item

					• Ensure workers are trained on cement handling storage and disposal of cement wastes according to its Material Safety Data Sheet (MSDS). • Provide suitable gloves and masks. • Ensure workers are wearing PPEs including masks and gloves and safety boots. • Ensure that an emergency response plan is in place to respond to any accidents or emergencies. • Periodic inspection to ensure that mitigation measures are implemented and stop any unsafe act or unsafe situation.					
Construction of new building, building walls, plastering, tiling and pouring floor, painting walls, and roofs, roofs insulation layer	• Falling from height >3m. • Injury or severe fractures as a result of falling. • Cracks or blisters on the hands due to effect of the chemical component of cement during mixing and direct contact with liquid cement. • Injury of the worker's head or the mason while transporting or handling the bricks and stones. • Foot injuries while mixing concrete. • Eye Injuries while applying painting scratch or base coat. • Injuries of the shoulders and back muscles because of lifting the wrong way or lifting heavy loads for long distances between the worker and construction. • Injuries in hands and feet due to using of hand tools		X		• Carry out EHS trainings and ensure EHS training records are kept and maintained. • Ensure the presence of construction awareness records. • Site preparation and proper organization of the stacked material to ensure the safety of workers. • Ensure that the stairs or scaffolding are stable and set up on the levelled ground and must be affixed to any stable body with no movement. • The used scaffold shall be in excellent condition in addition to ensuring the quality of the supporting floors casting works and scaffolds supported by the supervising engineer. • Inspect the tools and ladders before use. • Wear fall protection devices and helmets and head helmets while standing on ladders or high areas. • Provide safety harnesses while workers are working in high areas. • Using fall protection systems such as harness systems tied to anchors, guardrails, fall arrest systems, etc.			X	• Contractor / Resident Engineer / Workers	Part of PPEs cost first item

	like hammers, and chisels. • Injuries due to using a defective tool. • Workers fall while standing on the ladders or scaffolds during construction/rehabilitation works. • Misuse of equipment during plumbing work.				• Ensure workers working from height are wearing head helmets. • Ensure workers working from height are adhering to safety ropes and fall prevention devices. • Ensure workers at height are continuously supervised. • Do not allow workers to work at height without the safety measures and PPEs in place. • Use safety gloves while loading, transporting, and handling stones. • Long, rubber safety boots shall be worn while mixing concrete. • Only trained workers can work with cement. • Wear PPEs including Eye protection must be worn to protect the eyes from volatile cement while applying plastering scratch or base coat or painting walls/roofs. as well as use safety gloves while mixing concrete. • Provide a first aid bag. • Do not use tools with obvious signs of damage. • Ensure workers get regular breaks and potable water. • Raise awareness to workers on proper lifting method to avoid back injuries or falling from height. • Inspect weather forecasts and avoid working during bad weather conditions. • Use wheelbarrows to transfer or lift materials instead of manually to avoid back and muscle injuries. • Periodic inspection to ensure that mitigation measures are implemented and stop any unsafe act or unsafe situation.					

Installation of plumbing pipes and fittings	• Risk due to excavation works for pipes lines. • Injuries during the pipe's connection works. • Hands or feet get injured while plumbing works. • Misuse of equipment during plumbing work. • Traffic Accidents. • Vehicles running into workers (pipeline area)		X		• Hire skilled labour to implement these activities. • Follow the mitigation measures for excavation risks mentioned above in the excavation risk part. • Coordinate with local councils, beneficiary committee before excavation of water supply pipelines. • Install traffic signs to reduce speed and alternative roads, as well as install the warning signs for the work area. • Ensure a flagman is present to warn vehicles of work area and to arrange traffic on site.			X	• Contractor / Resident Engineer / Workers	Part of PPEs cost first item
Demolition work for the existing buildings	• Serious accidents/ injurious due to demolition works. • Risks during working on heights. • The collapse of demolition works on workers. • Workers' ignorance of safety hazards at the worksite. • Risks during Use ladders while Demolition. • Using wrong equipment's for wrong purposes.	X			• Safely remove the damaged parts. • Avoid using ladders during demolition works. • Inspect tools and ladders before use. • Wear fall protection devices and helmets during demolition works. • Ensure workers are not working during environmentally risky periods (sandstorm, rainy periods etc.) • Workers must keep a safe distance from demolition area and demolition areas must be properly covered.			X	• Contractor / Resident Engineer /Workers •	Part of PPEs cost first item
Working at heights	• Injury/death - inadequate ladder; inadequate use of ladder; failure to wear fall arrest gears; inadequate scaffold erection; inadequate safe work procedure • Falling from height >3m.	X			• Use safe scaffolding for working at height and ensure it is according to safety standards and specifications. • Check the scaffolding specification before using it and ensure it is according to international safety standards. • Inspect tools and ladders before use. • Wear fall protection devices and helmets and head helmets while standing on ladders or high areas. • Provide safety harnesses while workers are working in high areas.			X	• Contractor / Resident Engineer /Workers •	Part of PPEs cost first item

					• Using fall protection systems such as harness systems tied to anchors, guardrails, fall arrest systems, etc. • Ensure workers working from height are wearing head helmets. • Ensure workers working from height are adhering to safety ropes and fall prevention devices. • Ensure workers at height are continuously supervised. • Do not allow workers to work at height without the safety measures and PPEs in place. • Daily check for scaffolding before starting the work at heights to ensure the working platforms with guard- rails, fence, toe-boards are according to safe specifications standard. • Ensure the scaffolding is erected to fixed buildings and on safe ground. • Using of scaffolds sufficient large to allow safe use and movement and ensure there is sufficient bracing into scaffolds. • Determine the allowed loads for use on the platforms to prevent its collapse. • Erecting scaffolds by competent workers. • Inspect the scaffolds before starting the work. • Issue special permit to work for scaffolds to ensure it is safe to use. • Ensure that the stairs or scaffolding are stable and set up on the levelled ground and must be affixed to any stable body with no movement. • Ensure cautious supervision of the workers during working at height. • Use safety gloves while loading, transporting, and distributing stones while building. • Long, rubber safety boots shall be worn while					

					touching the concrete. • Eye protection must be worn to protect the eyes from volatile cement while applying plastering scratch or base coat or braking and forming stones. as well as use safety gloves while mixing concrete. • Wearing isolation boots and gloves are obligatory while using the electrical tools. • Overalls, eye protection, and face visors are provided for workers who work on height. • Ensure ladders are stable and provide fall prevention devices.					
Dealing with hazardous material Paint, epoxy and insulated materials	• Skin and eye irritation and allergies from hazardous material such as wet cement, paint, epoxy and insulation materials.		X		• Store, handle and dispose hazardous material and waste according to their MSDSs. • Hazardous materials and wastes should be handled by trained workers. • Workers should be provided with proper PPEs. • Using local exhaust ventilation systems or open windows/doors to ensure good airflow and reduce inhalation of paint fumes • For tasks with higher chemical exposures, limit the work duration and rotate workers to reduce total exposure. • Keep tools and equipment, and their safety features, in good working order. This can be achieved by routine inspection of working equipment. • Select paints with lower VOC content- Use water-based paints instead of solvent-based varieties where possible. • Use epoxy in well-ventilated areas away from water sources and wear breathing masks, gloves and eye protection • Ensure adequate storage and labelling of chemicals items according to safety data sheets helps reduce accidental exposures. • Safety goggles help protect eyes against splashes or airborne chemical particles that can cause irritation.			X	• Contractor / Resident Engineer /Workers	Part of PPEs cost first item

					• Presence of Hand washing and showering after chemical works can remove residual chemicals and reduce dermal absorption. • Consider alternative products where possible that do not contain harmful chemicals like aromatic hydrocarbons and lead. • Alternative products where possible that do not contain harmful chemicals like aromatic hydrocarbons and lead. • Train workers on chemical hazards, exposure symptoms, and safe work practices to minimize chemical absorption and inhalation. • Use drops cloths, masking tape, plastic sheets and other coverings to protect floors, walls, furniture and equipment from chemical splashes and overspray. • Clean up spills immediately • Restrict access to the painting, and insulation areas to only the workers actively involved in the job.					
Reshaping, handling, and building of stones in work site	• Eyes get injured while reshaping stones. • Hand Injuries. • Foot injuries • Stones fall on workers while handling, or loading. • Workers fall while standing on stones to cut or walk on them. • Stones falling on pedestrians or people passing by. • Improper use of equipment while reshape stones. • Stone splinters resulting from reshaping stones cause damage to the worker's body. • Hearing injury.		X		• Issuance of special permits by the resident supervising engineer to carry out the work. • The use of Personal Protection Equipment (PPE) during the work of reshaping stones is obligatory. Ensure that all necessary protection measures are properly considered. • Raise awareness to workers on safe reshaping techniques. • Use of safety gloves, helmets and safety boots while loading, handling, and distributing stones. • Wearing appropriate safety boots is obligatory during the activity implementation. • Safety eye wear must be on to protect the eyes from stone splinters during the reshaping of stones. • Use safe and appropriate tools for reshaping and forming of stones.			X	• Contractor / Resident Engineer / Workers	Part of PPEs cost first item

					• Store and organize stones in the work area so as not to block the pathways, or cause danger to workers.					
Implementing of Steel works (doors or windows) and welding works	• Injury to hands or feet while installing doors or windows. • Eyes and skin injuries from heat while using welding equipment. • Injuries of the shoulders and back muscles as a result of lifting the wrong way or lifting heavy load for long, far distances between the worker and construction.		X		• Provide safety goggles, protective masks, helmets, overalls, and safety shoes, as appropriate. • Use a safety harness working at height. • Ensure skilled workers are hired for this activity. • Training workers on safety procedures while carrying and handling things. • Lifting and handling objects that are proportionate with the person's ability to not exceed 50 kg. • Use mechanical tools instead of lifting heavy materials manually • Provide training on proper carrying and handling techniques to avoid muscle and back injuries. • Wear proper welding PPEs including heat resistant head covers, face covers, safety shoes, gloves and overalls. • Carry welding in well-ventilated areas • Carry welding only in dry areas. • Ensure skilled workers are hired for welding activity. • Training workers on safety procedures while implement the welding works. • Ensure welding equipment is in good condition and safe to use.			X	• Contractor / Resident Engineer / Workers	Part of PPEs cost first item
Implementing of Sanitation works, Work in closed or confined spaces (Water Tank or Septic Tank)	• Hands or feet get injured while excavating work. • Dust, sand, and small parts volatilize while excavating in soil. • Breathe the plastic dust emitted from UPVC pipe pieces.		X		• A permit must be cut issued entering any closed area from the site official to review the safety equipment before starting work in anticipation of any emergency. • Issuance of work permits by the resident engineer to carry out the work. • Workers sign that they have received awareness about the implementation of the			X	• Contractor / Resident Engineer / Workers	Part of PPEs cost first item

	• Injuries due to lack of oxygen or toxic gases • Variation in temperature (cold, hot) • Trapping risks inside these places.				activity and that they understood the special procedures that help mitigate, minimize and avoid potential risks. • A proper supervision to ensure OHS measures are in place and access control logbook to record all trained workers working in the confined areas including register of workers names, Location, and working shift, maximum shift time, start time and finish time of entry to the confined areas to ensure safety of workers. • A proper ventilation for confined areas prior allowing any work and gas test to be conducted prior work shift to ensure the areas are free from any toxic and harmful gasses. • Specific PPEs suitable to the type of activity, including provision of self-contained breathing apparatus (SCBA) with oxygen tanks to workers when working inside areas where there is insufficient oxygen with proper training on how to use them properly. • Hire skilled labour to implement these activities. • Ensure the provision of tools for measuring toxic gases and oxygen levels during work in closed or confined spaces. • A suitable lighting shall be provided inside the confined areas during work hours. • Use protective masks while cutting pipes. • Ensure the necessary personal protective equipment (PPE) is provided for excavation workers. • Install temporary fencing around the excavations to prevent falling. • Ensure activity is done by skilled workers. • Ensure no work is conducted during bad weather conditions (i.e., sandstorms, dust storms, rainy seasons etc.) • Ensure limited time spent in confined areas.					

					• Leave the place immediately in the event of an emergency**.** • Do not use any smoke generators or sources in enclosed spaces. • The presence of an observer outside the closed place permanently during work in anticipation of any emergency situation. • Inspect the tool before use. • Do not use tools with obvious signs of damage. • Maintain the excavation equipment before starting the work to ensure it is in good condition and safe to work.					
Reinforcement Concrete works include reinforcement steel bars installation and concrete pouring (columns, beams, slabs),	• Workers fall from height (more than three meter) which may lead to death or serious injuries. • Injuries or serious fractures as a result of reinforcement steel bars placing and concrete pouring. • Various typical injuries to the hands during shuttering work and reinforcement steel bars placing. • Falling materials from high surfaces on the workers or pedestrians may cause death or serious injuries. • Collapsing of working platforms, concrete formwork on the workers or pedestrians may cause death or serious injuries. • injuries due using of		X		• Carry out EHS trainings and ensure EHS training records are kept and maintained. • Ensure the presence of construction awareness records. • Site preparation and proper organization of the stacked material to ensure the safety of workers. • Use safe scaffolding for working at height and ensure it is according to safety standards and specifications. • Hire skilled labour to implement these activities. • Check the scaffolding specification before using it and ensure it is in accordance with international safety standards. • Do daily check for scaffolding before starting the work at heights to ensure the working platforms with guard- rails, fence, toe-boards are properly installed in accordance with safe specifications standards. • Ensure the scaffolding is erected to fixed buildings and on safe ground. • Using of scaffolds sufficiently large to allow safe use and movement and ensure there is sufficient bracing into scaffolds.			X	• Contractor / Resident Engineer/ Workers	Part of PPEs first item

	cutting equipment.				• Check the platforms big enough to allow safe use of equipment and materials, safe passage, clean and tidy. • Determine the allowed loads for use on the platforms to prevent its collapse. • Erect scaffolds by competent workers. • Inspect the scaffolds before starting work. • Issue special permit to work for scaffolds to ensure it is safe to use. • Ensure that the stairs or scaffolding are stable and set up on the levelled ground and must be affixed to any stable body with no movement. • Use safety harnesses by workers during working at height. • Ensure cautious supervision of the workers during working at height. • Use safety gloves while loading, transporting, and distributing stones • Long, rubber safety boots shall be worn while touching the concrete. • Eye protection must be worn to protect the eyes from volatile cement while applying plastering scratch or base coat or braking and forming stones as well as use safety gloves while mixing concrete. • Wearing isolation boots and gloves are obligatory while using electrical tools. • Overalls, eye protection, and face visors are provided for workers who work on cutting steel bars. • All workers are wearing head helmets and safety boots • All workers maintain safe distance properly marked from the lifted load to avoid the risk of heavy loads falling on them • A flagman is present on site for proper site arrangement and movements					

Implementing of Electrical work	• Occupational accidents and incidents caused by electrical work. • Injuries during electrical foundation works. • Injuries from electrical shocks. • Injuries because of stumbling by random power wires. • Electric shock and burns from contact with live parts. • Injury from exposure to arcing, fire from faulty electrical equipment or installations.	X			• Take all safety precautions to address hazards for workers and visitors and the nearby community including safety/warning signage, and safety barriers around the work sites. • Train workers regarding avoiding and responding to electric shocks. • Provide fully insulated installation tools, instruments, and equipment. • Identify buried electrical cable prior the activity. • Issuance of work permits by the resident supervising engineer to carry out the work. • Provide electrical resistant PPEs including gloves. • Ensure adhering to electricity resistant PPEs. • Do not work during wet seasons or near wet areas. • No loose connections are not allowed to avoid fire and other disasters. • Power to be cut-off while not working. • Properly cables (armoured cables) without any joint to be used for electric supply. • Cables and wiring should be outdoor and indoor specified for each site. • Provide fire extinguishers suitable for use in electrical fires. • Ensure skilled workers are hired for these activities. • Periodic inspection to ensure that mitigation measures are implemented and stop any unsafe act or unsafe situation.			X	• Contractor/ Resident Engineer	Part of PPEs first item
Paving sidewalks Activities including (Excavations, Levelling, Paving the stones)	• Dust, sand, and small parts volatilize while excavating in sandy soil. • A limb is injured while using drilling and excavation equipment.		X		• Site preparation and proper organization of the stacked material to ensure the safety of workers during work. • Install warning signs, barricading of working area with safety tapes and fencing to prevent unauthorized access of public and			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item

	• Exposure to the hot sun during works causes headaches and psychological and neurological disorders • Misuse of equipment necessary for excavation, pouring concrete, or removal of waste and the like. • Workers' ignorance of safety hazards at the work site. • Stones fall on workers while shaping, transporting, or loading • Workers fall while standing on stones. • Injuries of the shoulders and back muscles because of wrong lifting heavy loads for long distances. • Serious accidents due to work in proximity of heavy equipment in the workplaces such as Cement mixture, Graders, Compactors, trucks…etc. • Injuries or skin cracks due to contact with cement mixing equipment while working. • Injuries or serious fractures as a result of workers falling during the work of shutters, reinforcement steel bars placing, and concrete pouring.				pedestrians to work areas in particular, and the worksites in general. • Use appropriate equipment for levelling and excavation and pay extra attention while using mechanical excavators. • Safety gloves, dust masks, protective helmets, protective boots, and all necessary PPE to mitigate the risks of conducting the activity are to be used by workers at all times on-site. • Allow for regular breaks and provide water. • Use of explosives is forbidden in any of project activities. This is clearly communicated to all communities. • Provide the worksites with guards 24 hours to stop an unauthorized entrance to the work sites. • Maintain the equipment before starting the work to ensure it is in good condition and safe to work. • Collecting and transporting the residues to the designated landfills allocated by local authorities. • Ensure skilled workers are hired for this activity. • Assign banksman to arrange the vehicle's movement. • Always keep a safe distance with work equipment including Cement mixture, Graders, Compactors, trucks…etc. • Wearing high visibility clothing in the worksite. • Conduct additional inspection for civil works before starting the work to observe the worksite, ensure the safety procedures in place, and approved the permit to work. • Long rubber safety shoes, piles should be worn while mixing concrete on site, and store cement according to its MSDS by					

	• cars and vehicles running into workers.				trained workers. • Workers are aware of the dangers of concrete mixing equipment and maintaining a safe distance during its movement and rotation. • Alert local communities about activates risks. • Add warning signs to warn road users of work ahead. • Ensure barriers are present around work site. • Ensure a flagman is present for work site arrangements.					
Risk of Lifting Activity	• Hazards related to the loads, e.g. crushing due to impact of moving objects or loads falling because they are not aligned properly or the wrong type of slings were used • Hazards from cranes falling over because of improper fixation or strong wind, unsafe loads, loads exceeding the safe weight limits, such as pipes and steel bars lifting, etc. • Hazards related to poor environment that may interfere with communication between workers or concentration needed for the task (noise) or cause sweaty, slippery objects (heat, poor ventilation) • Contact with overhead electrical cables. • Risk of High wind speed, Poor communication and	X			• Close the lifting area with fence to prevent access to the lifting area during lifting work. • Install warning Signs in lifting activities site. • Carry out lifting work by well trained, qualified, and certified lifting team; and provided means of communication and flagman. • Use well-maintained equipment for lifting that are appropriate for the weight; well, checked and tested by a third party. • Secure loads when lifting and use strong and reliable fixation materials to make sure that the load is well tighten and no solid parts falls from the load during lifting. • Protect the units against staining, discoloration and other damage until they are installed in their final location. • Lifting device capacity shall be 1.65 times the maximum calculated static load at that point. • Ensure to coordinate with local authority on areas with electricity grids/networks and cables in order to avoid electrical shocks. • Prohibit working during rainy periods. • Ensure a proper buffer distance between workers and lifting areas is kept and workers are wearing all safety PPEs such as helmets. • Maintain a properly marked buffer area/safe			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item

	poor visibility				distance between workers and lifting area.					
Traffic safety, Movement of people and vehicles in the worksite. Movement of work equipment including Tracks, Excavators, and Compactor.	• People or workers struck by moving vehicles. • Likely traffic accidents (collision) between moving vehicles. • Falling workers from vehicles during moving. • Falling vehicles from the road edge. • Falling vehicles or equipment into excavations.		X		• Conduct as much work as possible during low traffic periods. • Emphasis on safety aspects among drivers • inform drivers on the local speed limit, and monitor implementation. • Coordinate with local authorities to provide and manage alternative roads for smooth traffic if required. • Control and manage traffic, by using traffic cones, barriers, fences, or lights as appropriate. • Daily inspection and maintenance for the vehicles by the contractor to ensure they are in good condition prior to starting the work. • Provide traffic signs in the worksite, especially for speed limits, routes directions, parking places, entrance and exits, pedestrians' walkways, and worksite warnings signs. • Warning signs for vehicles should be added at a safe distance from work site to warn drivers to slow down prior to reaching the work area. • Stop the movement of vehicles in worksite in bad weather conditions to avoid collision. Provide the worksite with barriers in the road edges to protect workers and vehicles from falling. • Arrangement and control of the worksite entrance and exits, and not allow for unauthorized person or vehicles enter the worksite. • . Provide the vehicles in the worksite with audible reversing alarms and flashing beacons. • Prohibit workers to climb on the vehicles			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item

					during moving to avoid falling.					
Working at Night	• Poor or insufficient light at project site increase chances of accidents. • Pushing female to work at night which may lead to increased social risk or conflict in their families etc.		X		• Use of permit to work for working at night. • No more than 4-6 hours of work per day are allowed during night as per the legislation and LMP. • Work hours are limited to the approved 8 hours per day that can be done in one shift at night or divided into two shifts (day and night times) 4 hours each for each shift according to the local law. • Workers are voluntarily agreed to work at night. • Ensure proper lights with adequate distribution are installed at project site. • Ensure work site is properly secured and in/out is fully controlled. • Ensure activities conducted at night are not high risk. • Provide head lights to all workers at project site. • Install reflective /Florescent signs around the work areas. • Ensure proper PPEs are provided for workers, including reflective vests, etc. • Ensure supervisors are available at all times. • No alone worker is allowed at night. • Ensure GM system is place and awareness are given to all workers and they sign the code of conduct. • Raise awareness on risks of working at night with all workers. • Ensure Emergency Response Plan is in place. • Ensure Communication means are in place. • No female worker is permitted to work at night at any outdoor interventions. • Female is encouraged to participate at			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item

					household interventions when possible.					
OHS risks related to tree planting	• Muscle strain, head injury, puncture wounds, bruises, and crushes while using hand tools. • Musculoskeletal disorders during manual handling. • Thorns risks such as scratches, puncture wounds, and skin irritation. • Twigs/branches risks such as scratches, puncture wounds, and bruising. • Slip, trip, and falls.		X		• Inspect tools before and after each use and maintain them in good condition. • Provide users with tool use and safety information. • Use the correct tools for the job. • Ensure a firm and stable distance while transporting and handling of trees and wear sturdy footwear. • Wear gloves do not use them when handles are wet. • Maintain safety distances between tools /machines and workers. • Wear masks, gloves, googles, safety boots and head helmets • Explain basic manual handling during safety talk (avoid heavy loads/twisting/straining). • Use the right tool for the right job. • Take regular breaks during the session. • Don't over-exert–beyond workers physical capacity and provide regular breaks and water. • Use mechanical aids or get help when moving heavy loads. • Gloves to be worn at all times when handling saplings. • Wear dust masks and gloves and safety boots and helmets. • Thicker gauntlet gloves available and adhered to if planting thorny vegetation. • Handle saplings at base of the plant to avoid contact with thorns. • If required, wear goggles to protect eyes from twigs/branches. • Ensure unused tools are left in a designated place, stored neatly.			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item

					• Where possible, only dig holes for trees as you plant to prevent empty holes becoming a tripping hazard.					
Manual Handling	• Risk of heavy, Bulky, or unwieldy load • Risk of Unstable/ unpredictable loads • Risk of PPE clothing hindering the movement or posture • Risk of poor communication on safety between workers. • Risk of workers' back injuries due to wrong manual handling. • Handling chemicals (i.e., cement) causing skin and eye irritation.		X		• Avoid the need for unnecessary manual handling as possible when suitable equipment is present. • Reduce the load risk by using small wheel stable containers. • Reorganize the activity to further reduce the impact on the individual(s). • Utilize mechanical lifting aids or equipment as appropriate and keep a safe distance from lifting equipment. • Ensure appropriate rest breaks, hourly work shifts, and training are involved. • Provide personal protective equipment (e.g., gloves, foot protection, and non-slip footwear, eye googles). • Provide training for workers on handling and storing and disposing any hazardous substances and materials according to its MSDSs. • Ensure trained workers are dealing with cement and wearing proper PPEs including gloves, googles and masks. • Provide awareness sessions to workers on how to perform their tasks with physical work to avoid injuries. • Provide regular breaks and drinking water.			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item
Poor coordination, planning	• Hands or feet get injured while excavating or constructing works. • Dust, sand, and small parts volatilize while excavating or building works. • Injuries to the shoulders and back muscles because of lifting the wrong way or		X		• Conduct awareness sessions about (OHS) occupational and health safety includes (hazards associated with the activity, mitigation measures, and worker's responsibility as well as disciplinary action against any violation. • Regular breaks to workers and provision of clean water to workers. • Raise awareness to workers on proper lifting			X	• Contractor • Resident Engineer	Part of PPEs first item

	lifting heavy loads for long. • Risk of rain flood.				techniques and excavation techniques to avoid muscle and back injuries. • Workers sign that they have received awareness about the implementation of the activity, and that they understood the special procedures that help mitigate, minimize and avoid potential risks. • Ensure the necessary personal protective equipment (PPE) is always worn by workers and they get it for free. • Ensure no work is conducted during rainy periods and near stagnant water areas. • Ensure workers are aware of electric hazards from electric poles. • Coordinate with local authority regarding the presence of electrical poles and cables near the work area to avoid electrical shocks. • Check weather forecast prior to conducting any work. • Stop any work when sudden changes in weather conditions occur. • Check weather forecast prior to conducting any work.					
Operation Phase										
Working in unhealthy areas	• injuries to the workers of fish cutting and preparing from cutting tools such as knives. • Outbreaks of infectious disease such as diarrheal diseases and their consequences as cholera and dysentery, in addition to intestinal parasites among fishermen, vendors and other workers are common in such conditions.		X		• Landing centre Administration to issue a list of instructions for workers in the fish preparing department that includes occupational safety measures while dealing with cutting and processing fish. • Ensure adherence to occupational safety instructions by fish-preparing workers. • Use sound and good tools while working in fish processing • Use personal safety tools such as gloves, etc. • Awareness programs should focus on providing the trainee with knowledge that illustrate the benefits of proper fish handling			X	• Fish Association • Fish Authority • SMEPS during their training program. • community committee. • Landing centre	N. A

	• unhygienic conditions and poor sanitation are prevailed. • risk from drowning and fishing during bad weather and sea storms seasons. • Fire risks from generators and fuel.				and its impact on health and economy. • Other programs could also help fishermen to acquire and build necessary skills and good practices to raise quality and reduce manifestations of fish spoilage according to scientific and health standards with high efficiency. • Awareness sessions to fishermen on the risks and hazards of water, enabling them to identify and avoid dangerous weather conditions and unsafe waterbodies. • Adequate supervision to prevent swimming and provide a trained lifesaver. • Provide and train the fishermen on rescue means like lifejackets, GPS, etc. • Install early warning system for fishermen • Train the fisheries on the evacuation procedures in the sudden sea storms' cases. • Ensure the presence of fire extinguishers • Ensure presence of fire signs with details on how to use extinguishers • Train facility workers on using fire extinguishers and how to react in case of fire. • The number of firefighting units must be present on the signs. • Carry fire drills on regular basis. • Awareness on proper hygiene to be provided to workers/fishermen.				Administration. • Fish worker.	
Health risks, accidents and safety risks during operation and maintenance phase	Health risks. Accidents and safety risks.		X		• Landing site staff and users should be provided with an adequate supply of wholesome drinking water which should be maintained at suitable and accessible points. • Suitable, efficient, clean, and adequate sanitary conveniences should be provided for maintenance workers. • Ensure that the hygiene, safety, and protection rules of the environment are followed rigorously.			X	• Fish Association • Fish Authority • community committee • Landing centre Administration	N. A

					• Emergency response plan that provides measures to deal with emergencies and accidents. • Protective equipment should be made available on site. • First aid tools should be available. • Fire distinguishers should be made available. • Ensure the general safety and security at all times by providing day and night security guards who signed the code of conduct (COC) and adequate lighting within and around the landing site.					

6 Environmental, Social, and OHS Clauses and Liabilities for Contractors:

6.1 Conditions for the Eligible Contractors

1. Provision of adequate and suitable equipment for the activities of the subproject.
2. A financial capability that ensures the subproject will be executed and completed as per agreed terms and conditions.
3. Provision of insurance policies for the workers' health as a condition to signing the contracts.
4. The OHS tools should be provided with acceptable quality according to the BOQ with conducting training to the workers. These materials should be conditional for the handover of the site to the contractors.
5. Contractors are fully responsible for any accident or incident of any that may occur
6. Contactor's strict compliance with the ban on the use of explosives.
7. Contractors and contractors' site representatives have undertaken OHS training and are fully aware of the risks, mitigation measures, and responsibilities.
8. Contractors should abide by the principle of non-discrimination in all aspects of employment.
9. Banning the use of explosives should be enforced and monitored.
10. The contractor will be terminated if they do not comply with the E&S and OHS mitigation measures during implementation.
11. Contractors shall ensure compliance with the Code of Conduct

6.2 Environmental and Social Clauses for Contractors:

The contractors shall supply and execute the necessary works on-site to mitigate the environmental and social impacts of the subproject in accordance with the bidding and contractual E&S requirements. The Environmental and Social Clauses for Contractors should at least reflect the following but not exhaustive items:

1. Worker Health and Safety:

To avoid work-related accidents and injuries, the contractors will:

1.1 Provide occupational health and safety training to all employees (including the community worker if any) involved in the works.
1.2 Provide protective masks, helmets, overalls and safety shoes, safety goggles, as appropriate.
1.3 Provide workers in high noise areas with earplugs or earmuffs.
1.4 Ensure availability of first aid box.
1.5 Provide employees with access to toilets and potable drinking water and soap.
1.6 Train workers regarding the handling of hazardous materials hazardous materials and storing and managing hazardous materials

2. Labor Management Plan:

The contractor is responsible for all sub-contractors and suppliers working under him and ensure that they meet the requirements of the national law and the ESF.

The estimated/planned number of labors for the rehabilitation of Fuqm landing Site is **62** (30%) skilled and **144**(70%) unskilled labor which will be working according to implementing activity during the project life in which the expected life project contract will be twelve months. The timing of labor will be about 8 hours/day and 5days/week during the construction phase of the subproject, the time when most labor will be employed in demolition, excavations, backfilling, and leveling works which is no need for skills from the workers. regarding female employing it can be employed in jobs that do not require physical effort

such as preparing food, cleaning, washing, spraying, and others, in addition to reducing the working hours for women so that they are about half the hours of men's work at most, it is expected the skilled laborers will not be given accommodation. Contractor shall ensure that all workers are hired formally with proper contract, in accordance with national regulation, ESS2, and the LMP. In which the contractor is responsible on:

2.1 Wages and Deductions: The contractor shall be in line with the current market rates paid for skilled, semi-skilled, or unskilled labor. Also, the daily rates could differ from one governorate to another; hence, it should be equivalent to the wages paid in the specific location. PWP field staff shall monitor and ensure contractor pays all workers based on market rates in the area.

2.2 Child Labor and Forced Labor: Ensure all workers are 18 Years old and above, and no child, forced, involuntary or unpaid labor will be used in any works.

2.3 There will be no discrimination in the wage rates between males and females for that there will be no forced labor employed.

2.4 Labor influx: The contractor should use workers from the local communities as possible. Some parts of the activities including special works that require skilled labors, these tasks may be undertaken by appropriately skilled workers from the targeted areas and when not available, the contractors may hire skilled laborers from nearby areas.

2.5 Sexual Exploitation and Abuse (SEA)/Sexual Harassment (SH): The contractor and its workers should sign the Code of Conduct and ensure workers respect and adherence to the Code of Conduct CoC for the local community's protection and do no harm. Ensure that workers respect local community cultures, and social safeguard issues on Gender, SEA/SH. Raise awareness on the GM system and how it can be used to report any SEA/SH cases.

2.6 Community Health and Safety: The contractor shall protect the local communities from any risks that might be generated during the implementation as mentioned in the OHS plan above.

2.7 Occupational Health and Safety (OHS): The contractor shall maintain occupational health and safety system on site to protect workers from hazards and risks and provide adequate health and safety training[21], required PPE, first aid box, and toilets and potable drinking water, and as mentioned in the OHS plan above.

2.8 Overtime Work: The contractors shall provide workers basic wages per hour of overtime on normal working days and on the day of weekly rest, and official holidays and leave, in addition to the entitlement to standard wages for such holidays according to the Yemeni Laws.

2.9 Gender and Social Inclusion: Contractors to adopt a non-discrimination policy in job opportunities during the implementation to ensure non-discriminatory and inclusive manner, including women, and as mentioned in the Environmental and Social Management Plan.

2.10 Training of workers: PWP staff and Contactors shall provide the workers with required training and daily toolbox talk on OHS, Environment, SEA/SH, GM, and as mentioned in the Environmental and Social Management Plan.

2.11 Addressing worker grievances: Contactors shall provide the work site with a GM system for all workers (community and contracted workers) including providing the complaints box and the project board with complaint means. The mechanism will also allow for anonymous complaints to be raised and addressed. Training on handling grievance in positive manner shall be provided to the contractor. Ensure that workers are aware that grievances will be handled positively. Contractors, resident engineers, and community committees are trained to handle grievances in a positive manner.

[21] This project will be implemented by national / traditional contractors. However, the contractor will be responsible for providing training and PPE for each worker

3. Insurance: the contractor shall provide insurance for any injury to any worker or any other third party who got injured inside the site.
4. Supply and implement roadblocks and traffic signs to prevent the entry of non-workers to work sites (zinc - timber - concrete blocks - warning tapes - traffic signs).
5. Conduct work section by section and to keep enough access to spaces fishermen for the remaining functioned parts of the landing site.
6. Assign a permanent safety supervisor to follow up the implementation of an environmental and social management plan as well as OHS requirements during the implementation of work activities at the site.
7. Apply a safety work permit system for all working activities at the site to ensure full implementation of ESMP and OHS requirements.
8. Supply of personal safety equipment and tools including boots, helmets, gloves, goggles, masks, earplugs, safety belts, air breathing apparatus, full body harness etc. in quantities enough for all laborers at the expense of the contractors and ensure the adherence of using by all.
9. Provide first aid boxes in the worksites (as per the emergency response plan) which contain (adhesive plaster of different sizes - sterile gauze - scissors – disinfectant- forceps - etc.).
10. Provide a contingency plan containing the names and numbers of the nearest health center and local assistants, the routes to be used, and the means of transport.
11. All necessary PPEs gears required for the job are distributed to each worker who will be participating in the implementation.
12. Provision of water for these bathrooms and or trenches with covers and obliging all workers and supervisors to use them.
13. Separate the material and store them accordingly and provide enough space for movement and maneuvering.
14. Removal of all waste during the implementation period to a dedicated location outside the work area (allocated landfills) and following the instructions of the consultant.
15. Commit to placing disturbing equipment away from populated places, not at accessible zones for the community, nor at sensitive zones and watercourses, and operating them at the appropriate times.
16. Commit to storing hazardous materials away from workers and sensitive zones and watercourses and not to change oils or leave grease residue in the work area.
17. Commit to the repair of public services (electricity, telephone, water, sewage) that are broken during the implementation of the project.
18. Report immediately any accident or injury occurring during the execution of the work and within a maximum period of 24 hours to the UNDP and in 48 hours to the WBG.
19. Conduct awareness sessions about OHS before the beginning of work by the contractors this includes hazards associated with the activity, mitigation measures, workers' responsibility, GM, sexual harassment, abuse, and gender-based violence as well as the disciplinary action against any violation.
20. The contractors shall adhere to the use of the Permit to Work system (PTW) for all activities and ensure all workers are aware of the system.
21. Contractors must address the risk of gender-based violence, through:
    i. Mandatory and repeated training and awareness-raising for the workforce about refraining from unacceptable conduct towards local community members, specifically women.
    ii. Informing workers about national laws that make sexual harassment and gender-based violence a punishable offense that is prosecuted.
    iii. Introducing a Worker Code of Conduct as part of the employment contract, and including sanctions for non-compliance (e.g., termination)

iv. Adopting a policy to cooperate with law enforcement agencies in investigating complaints about gender-based violence.

22. Contractors must not employ workers below the age of 18 and must ensure verification of documents is conducted before hiring.
23. Provide proof of insurance for all laborers, including the third party, before the implementation of the project.
24. Commit to not use any type of explosive materials for the extraction of stones required for the project or any relevant works.
25. Movement of Trucks and Construction Machinery: The Contractors moving solid or liquid construction materials and waste shall take strict measures to minimize littering of roads by ensuring that vehicles are loaded in such a manner as to prevent falling off or spilling of construction materials. This could be done by sheeting the sides and tops of all vehicles carrying mud, sand, other materials, and debris. Debris should be transferred to assigned places in the landfill.
26. Traffic Safety Measures: The Contractors shall provide, erect, and maintain such traffic signs, road markings, barriers, and traffic control signals, and other measures as may be necessary for ensuring traffic safety around the rehabilitation site. The Contractors shall not commence any work that affects the public motor roads and highways until all traffic safety measures necessitated by the work are fully operational.
27. Gas, Noise and Dust Control: The Contractors shall take all practicable measures to minimize nuisance from noise, vibration, and dust caused by heavy vehicles and construction machinery. This includes:
    - Respecting normal working hours.
    - Maintaining equipment in a good working order to minimize extraneous noise from mechanical vibration, creaking, and squeaking, as well as emissions or fumes from the machinery.
    - Shutting down equipment when it is not directly in use.
    - using operational noise mufflers.
    - Provide a water tanker and spray water when required to minimize the impact of dust.
    - Limiting the speed of vehicles used for construction.
    - Environmental training on machinery efficiency, the importance of maintenance, transportation efficiency and good practice usage of machinery in order to mitigate impacts from dust, gas, noise and climate change.
28. Protection of the Existing Installations: The Contractors shall properly safeguard all buildings, structures, works, services, or installations from harm, disturbance, or deterioration during the concession period. The Contractor shall take all necessary measures required for the support and protection of all buildings, structures, pipes, cables, sewers, and other apparatus during the concession period and will be required to repair any damage that may occur, in coordination with the Municipality and the relevant authorities.
29. Working in rainy seasons is not allowed where there is a risk of flooding, endangering workers or equipment.
30. Environmental training on machinery efficiency, the importance of maintenance, transportation efficiency and good practice usage of machinery in order to mitigate impacts from dust, gas, noise and climate change. Awareness sessions on biodiversity importance and monitoring techniques.

6.3 Environmental and Social Liabilities for Contractors

Contractors will be legally and financially accountable for any environmental or social damage or prejudice caused by their workers and it is thus expected that controls and procedures are put in place to manage environmental and social performance. These will include:

- Mitigation measures to be included in the contract will be specified in the subproject bidding documents.
- Deductions for environmental noncompliance will be added as a clause in the Bill of Quantities (BOQ) section.
- The contractor should be fully complied to all instructions; otherwise, according to the contract documents, suitable sanctions should be applied depending on the severity of the expected risk from this noncompliance, such as alert, final alert, and terminating the contract.
- Environmental penalties shall be calculated and deducted in each submitted invoice.
- Any impact that is not properly mitigated will be the object of an environmental/social notice by PWP.
- Any action from the perspective of PWP is severing and can cause a huge impact on the occupational health and safety, in the environment or in the social aspects, PWP has the power to terminate the contractor's contract, but the contractor in the blacklist, and Warranty confiscation.
- For minor infringements and social complaints: if an incident occurs, which causes temporary but reversible damage, the contractors will be given the notice to remedy the problem and restore the environment. No further actions will be taken if the PWP project engineer confirms that restoration is done satisfactorily.
- For social notices, the PWP project engineer will alert the contractors to remedy the social impact and to follow the issue until solved. If the contractor does not comply with the remediation request, work will be stopped and considered under no excused delay.
- If the contractors have not remedied the environmental impact during the allotted time, the PWP will stop the work and give the contractors a notification indicating a financial penalty according to the non-compiled mitigation measure that was specified in the bidding document. No further actions will be required if that restoration is done satisfactorily. Otherwise, if Contractors have not remedied the situation within one day any additional days of stopping work will be considered no excused delay.
- In the event of repeated non-compliance totaling 5% of the contract value, the Project Engineer will bring the environmental and social notices to the PWP procurement to take legal action.

6.4 Public Works Project Liabilities

1. Provision of insurance policies for the workers as a condition of signing the contracts.
2. PWP site engineer and community committee OHS officer have undertaken OHS training and are fully aware of the risks, mitigation measures, and responsibilities.
3. The contractor will be warned and banned if they do not comply with the E&S and OHS mitigation measures during implementation.
4. Labor management plan:
   - 4.1 Training of workers: PWP staff and Contactors shall provide the workers with required training and daily toolbox talk in the OHS, SEA/SH, GM, and as mentioned in the Environmental and Social Impact Analysis Plan and Mitigation Measures above.
   - 4.2 PWP site engineer Conduct awareness sessions about OHS before the beginning of work by the contractors this includes hazards associated with the activity, mitigation measures, workers' responsibility, GM, sexual harassment, abuse, and gender-based violence as well as the disciplinary action against any violation.

7 Environmental and Social Monitoring Plan

This section is to highlight the systematic measurements of key environmental indicators over specific time within the targeted landing site. The main aim of monitoring plan is to provide the information required to ensure that the project implementation has the least possible negative environmental impacts

on the people and environment arising from the construction and operation of project facilities. Monitoring measures should be regular and performed over a long period of duration. The monitoring plan will clearly indicate the linkages between impacts identified in the ESMP report, measurement indicators, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions.

The implementation of the mitigation measures will be monitored through daily checks by the supervisor engineers, daily by the resident engineers, biweekly by the OHS/SES staff at the branches as well as monthly visits by PWP subareas managers and regular TPM and UNDP field monitoring visits to ensure the compliance of the environmental and social safeguards standards and technical quality assurance. The roles and responsibilities of each responsible personnel are as follows:

- Gender Focal Point: is responsible to monitor the implementation of measures under gender action plan, including those related to gender equity, gender discrimination, SEA/SH, women workforce, beneficiaries' awareness, and GM.
- Safeguard Specialist is responsible to monitor all the safeguards process (as a general supervisor) as detailed in the ESMP and other ES documents, including SEP, and ensure their compliance.
- GM Officer: is responsible to monitor the GM processes, including awareness raising, receiving complaints, and following up, and reaching closure.
- Resident Engineer: conduct the daily monitoring and guarantee the compliance in the field in subproject bases.
- Community Committee: support in monitoring and solving the problems if any, support in raising the awareness of the community, monitor the community inclusion and Community satisfaction.
- Subarea Staff: follow up the compliance in sites and ensure everything is implemented according to the ESMP.
- TPM Staff: They conduct regular visits to the subproject and monitor the implementation in the subproject according to the timeline, specifications, BoQ, and designs.
- UNDP Staff: They conduct regular visits to the subproject and are responsible for monitoring and implementing the requirements and instructions of ESAP and ESF in relation to ES and OHS issues, in addition to monitoring the progress of the implementation in the subproject according to the timeline, specifications, BoQ, and designs.

Following aspects will be monitored (though the list will be updated to accommodate any emerging issues or updated aspects that may be recommended by the monitoring reports):

Table 8 Environmental and Social Monitoring Plan

Mitigation Measure (Action)	Monitoring methodologies and Indicators	Responsible[22]	Timeframe
Environment Monitoring Plan during Construction phase			
Air pollution, gas emissions, noise, waste, and traffic management	**Methodology**: • Complaints records. • Visual inspection **Indicators**: • The presences of fumes /dust cloud observed. • Number of society complaints on the air quality, noise level or waste at work site.	• Resident Engineer	• Daily

[22] The indicators are shared between the Responsible agencies, some of them are the responsible for implement the action and others are responsible for monitoring the actions' implementation according to the level of the position.

	• Number of recorded wastes at undesignated areas.		
Soil contamination.	**Methodology:** • Visual inspection and photographs. **Indicator**: • Change in soil color. • Presence of oil on the soil observed. • Number of recorded Soil pollution in work site. • Number of complaints from locals. • Number of spill events. • Presence of spill prevention kits.	• Resident Engineer • Contractor	• Daily
Monitor improper waste management by visual inspection	**Methodology:** • Grievances system related to waste mismanagement. • Periodic inspection for non-compliance with waste storage. **Indicator**: • Number of non-compliance with waste storage and handling. • Number of times waste was improperly accumulated, or wasted was recorded and stored outside a designated area. • Number of complaints related to waste mismanagement. • Presence of oil or solid waste observed. • Presence of waste receipt. • Presence of proper label on materials.	• Resident Engineer	• Daily
Ensure not to work in rainy season or during water stagnation.	**Methodology**: • Knowledge of the rainy seasons. • Monitor the weather in the area. **Indicators**: • Number of accidents. • Number of rainy events.	• Resident Engineer • Contractor • Community committee	• During rainy season
Hazardous materials and wastes storage.	**Methodology**: • Visual and photographic inspection, **Indicator**: • Number of times hazardous materials and waste were recorded outside designated zones. • Visible soil leak.	• Resident Engineer • Contractor	• Daily
loss of biodiversity and associated benefits during site clearing prior to construction	**Methodology**: • Visual and photographic inspection. • Inspection/site visits **Indicators** • Presence of biodiversity loosed observed in work site and number of dead animals or sick animals and habitat reduction.	• Resident Engineer	• Monthly

	• Significant change in species structure and composition. • Presence of dead animals. • Number of spill events.		
Ensure latrines and handwashing stations are available and supplied with water and soap	**Methodology**: • Visual and photographic inspection. **Indicators** • Presence of running water observed. • Presence of soap observed. • Presence of pests and flies	• Contractor • Resident Engineer	• Daily
Trees planting shall be conducted as BOQs	**Methodology**: • Visual and photographic inspection. **Indicators** • Number of planted native trees.	• Contractor • Resident Engineer	• Before invoice No. 1
Social Monitoring Plan during Construction phase			
No child labor is permitted, and workers must be 18 years or older.	**Methodology**: • Verifying age by checking IDs and other available documents. • Ensure a Labor Log is available, and all workers are registered. • Visual inspection **Indicator**: • Number of child labor (employed/ used) or number of recorded workers under the age of 18. • Labor log and IDs.	• Contractor • Resident Engineer • Community Committee	• Daily
Contractors and their workers are aware to respect the local community's protection and do no harm.	**Methodology**: • Provide awareness-rising. • GM system in place. • Contactor and its workers to sign the COC. **Indicators**: • 100% of Contractors, and their workers signed on the Code of Conduct (CoC). • Number of complaints received.	• PWP Safeguard • Contractor • Resident Engineer • Gender Focal Point	• Before commencement of work • Biweekly.
Prepare a traffic management plan (TMP) as part of the C-ESMP depending on the traffic volume and the condition/nature of local routes.	**Methodology** • Traffic management plan in worksite. **Indicators**: • Number of accidents. • Number of signboards related to traffic management.	• Contractor • Resident Engineer	• Daily as required
Knowledge of the local community, the community committee, and workers about the GM, as well as the contact numbers.	**Methodology** • Providing a complaint box, awareness-raising, Signboard with GM contact details in place and brochures distributing. • Visual inspection. **Indicator:**	• Subarea Staff • Resident Engineer	• Within one week before commencement of work.

Signboard with GM contact details in place	• The number of awareness-raising and brochures distributing. • Presence of sign board with GM contact details in place. • The number of complaints.		• Bi-weekly.
Public safety during the construction work.	**Methodology:** • Visual observation and photos. **Indicator:** • Number of recorded injures. • Number of awareness sessions for community.	• Resident Engineer • Contractor	• Daily
Community satisfaction	**Indicator**: • Number of grievances raised and types. • Number of resolved complaints. • Number of accidents.	• Community Committee	• Monthly
Regular awareness sessions to communities, community committee, and workers about the use of GM.	**Methodology:** • Awareness records. **Indicator:** • Number of awareness- session to communities and workers.	• Subarea Staff • Resident Engineer • Gender Focal Point	• At the onset of subproject. • Regularly • Bi-weekly
Regular awareness sessions to communities, community committee, and workers about the historical value of the worksite and the importance of reporting any archaeological discoveries	**Methodology:** • Awareness records. **Indicator:** • Number of awareness sessions to communities, a community committee, and workers about archaeological discoveries management procedures.	• Subarea Staff • Resident Engineer • Antiquities Authority	• Before commencement of the work.
Involvement of the community in the supervision of the implementation of the subproject and report any findings	**Methodology**: • Disclosure of project activities with designs. • Using GM system. **Indicator**: • No. of GM complaints from the community. • The number of resolved complaints.	• Community Committee • Subarea Staff • Resident Engineer	• Daily
Ensuring awareness is raised regarding Sexual Exploitation and Abuse /Sexual Harassment (SEA/SH) among all workers as well as the community. Ensure laws are enforced for any violations.	**Methodology**: • Use of Photos. • Provide an awareness session about punishing violations. **Indicators**: • Number of SEA and SH cases. • Number of awareness sessions.	• Gender Focal Point • Resident Engineer • Community Committee	• Monthly
SEA/SH (if occurs) are reported in accordance with the law.	**Methodology**: • Provide GM system. **Indicator**: • Number of grievances.	• Gender Focal Point • Safeguard Specialist	• When happen

	• Number of resolved grievances.	• GM Specialist • Resident Engineer	
Ensure non-discrimination and inclusion of women and persons with disabilities when selecting beneficiaries	**Methodology**: • The beneficiaries of the project. **Indicators**: • Number of women beneficiaries versus men. • Number of GM complaints regarding discrimination and solved complaints. • Number of women and men in community committees • Number of consultations with exclusively women groups.	• Gender Focal Point • Subarea staff • Resident Engineer • Safeguard Specialist • Community Committee	• Before commencement of work • During the implementation
Ensure no financial exploitation of communities or beneficiaries	**Methodology**: • GM complaints. • Awareness sessions. **Indicator**: • Number of GM complaints regarding financial exploitation.	• Sub-area staff • Resident Engineer • Safeguard Specialist • Community Committee	• Weekly. • Monthly.
Monitoring and reporting SEA/SH complaints. Ensure GM cases related to SEA/SH are well treated and mitigated quickly.	**Methodology**: • Provide GM system • Tracking of SEA/SH cases reported. • Monitoring SEA/SH cases to ensure survivors access services in a timely manner. **Indicator**: • Number of recorded grievances related to SEA /SH and number of solved grievances	• Gender Focal Point • Safeguard Specialist • GM Specialist • Resident Engineer	• Weekly
OHS Monitoring Plan during Construction phase			
Adherence of contractor to permit to work system for activities as identified by the risk assessment[23] and ensuring all safety measures for the task is in place	**Methodology**: • Issuance of the permit to work. **Indicators**: • Number of permits issued for activities and safety measures with the type of work. • Number of incidents/ accidents recorded and type.	• Contractor • Resident Engineer • PWP safeguard	• Daily as required
Inspections are conducted to verify the safety measures are in place and documented	**Methodology**: • Forms and reports filled in every visit **Indicator**: • The number of problems found/ noncompliance	• Subarea Staff • Resident Engineer	• Daily

[23] Risk assessment should be undertaken once in the project cycle and when it's required as when we have new activities in the subproject or when a sever accident happened, in which the risks and their mitigation measures should be attached with sub-project documents.

All OHS requirements for the subproject are identified and available in the place.	**Methodology** • Incorporating OHS requirements into project documents. • OHS inspections and audits. **Indicators** • Number of incidents and types. • The record of injuries in project reports.	• Subarea Staff • Resident Engineer	• Daily as required
Regular awareness sessions to communities and workers aware of the safety requirements are conducted	**Methodology**: • Awareness sessions records • Visual observation and photographic documentation **Indicator**: • Number of awareness sessions to communities and workers. • Number of injuries.	• Resident Engineer	• Weekly
Occupational Health and Safety Hazards	**Methodology** • PPES check list • Inspection on Availability of the correct type of PPEs and the adherence to proper use of PPE by all workers. **Indicators**: • Number of workers adhering to the suitable PPEs. • Number of injuries accidents and details on recovery.	• Contractor • Resident Engineer	• Before commencement of the work
Workers' satisfaction	**Methodology**: • Workers' grievances system **Indicators**: • Number of workers' grievances and type • Number of resolved grievances	• Contractor • Resident Engineer	• Weekly
All accidents and incidents are reported to head office within 24 hours and communicated to UNDP	**Methodology**: • Accident, and injuries reports within 24 hours **Indicators**: • Number and types of accidents, and injuries reported and recorded and time of reporting. • Number of reported accidents within 24 hours to UNDP and within 48 hours to the WBG versus the number of reported accidents after 24 hours to UNDP and after 48 hours to WBG.	• Contractor • Resident Engineer	• within 48 hours
Ensure all activities that require specific skills are done by skilled workers.	**Methodology** • Labor data with skill level **Indicators**: Number of skilled workers and type of work.	• Resident Engineer	• Daily
Tools and equipment to be regularly maintained and inspected to ensure they are of acceptable quality and in good working	**Methodology** • Periodic inspection of tools and equipment **Indicators**: • Results of the periodically report • Number of maintenances performed on tools.	• Resident Engineer	• Before using it and Monthly

condition for the required activity			
An emergency response plan with details of the nearest hospital or medical center shall be in place and responsibilities are understood by all workers. First aid boxes are available and a list of trained First aiders is posted and known by all workers	**Methodology**: • Photos and site inspection **Indicators:** • Emergency plan banner in the site photo • Photos that reflect workers training in the emergency plan and first aid. • Photo for the first aid box on site	• Contractor • Resident Engineer • Safeguard Specialist	• From the beginning of the implement ation
All constructions works are to be conducted during daylight and when required night works are allowed	**Methodology**: • Using GM system **Indicator**: • No. of GM complaints and number of resolved complaints. • Presence and number of workers on site	• Resident Engineer • Community Committee	• Daily
Monitoring plan during operation and Maintenance phase			
Biodiversity Conservation	**Methodology**: • Proper management of fishermen. • Raising awareness of fishermen. • Encourage the use of mooring anchorage instead of traditional anchors. • Monitoring and inspection of biodiversity. • Inspection/site visits. **Indicators:** • Significant change in species structure and composition. • Presence of dead animals. • Significant decrease in marine life. • Presence of fishermen during spawning seasons. • Number of spill events. • Presence of mooring buoys instead of traditional anchors. • Number of awareness sessions provided to fishermen.	• Fish Association • Local Council • EPA and fish authority	• Monthly
risks of overfishing and on fish stocks	**Methodology:** • Issue numbered permits aligned to quotas/limitations. • Monitor gear used and catch quantity. **Indicator:** • No. of permits issued vs total fishing capacity. • Catch data vs quotas/seasonal restrictions.	• Community Committee • Local Authority	• Annually

	• Number of boats versus carrying capacity on site. • Presence of boats during prohibited fishing seasons or sensitive fish seasons. • Percentage decrease in fish stock. • Number of non-compliances including noncompliance in fishing gear.		
High use of water	**Methodology:** • Install water meters to track usage. • Develop reuse systems. **Indicator:** • Water usage data from meters. • Volume of greywater captured and reused. • Water quality within safety limit based on national law regulations. • Water level did not significantly decrease from artisanal well from its baseline. • Water abstraction rates are below replenishment rates from artisanal well and other water resources. • Number of awareness sessions related to water conservation measures provided to local communities.	• Community Committee • Local Authority	• Monthly
High energy usage	**Methodology:** • Visual inspections. • Monitor and track the energy consumption. • Provide training and awareness sessions. **Indicator:** • Percentage reduction in total energy consumption. • Number of awareness sessions conducted.	• Community Committee • Local Authority	• Monthly
Maintenance works during operational phase	**Methodology:** • Complaints recorded. • Visual inspection. • Maintenance records. **Indicator:** • Visible deterioration detected. • Number of complaints regarding quality/deterioration. • Number of maintenances performed for the structures.	• Community Committee • Local Authority • Fish Association	• Monthly
Working in unhealthy areas and presence of wastes	**Methodology:** • Complaints recorded. • Visual inspection • Number of trainings on OHS, environmental issues and social issues	• Fish Association • Fish Authority • Community Committee	• Every three months

	Indicator: • Number of complaints regarding health issues • Number of trainings provided regarding OHS, environmental and social topics.		

8 Stakeholders Engagement Plan, Public Consultation

8.1 Public Consultation

Meetings with different stakeholders in Fuqm area have been conducted, including meetings with governmental departments, local authorities, fisheries association, community leaders, fishermen, and coastal communities including women. PWP social mobilized team has conducted several focused group discussions and interviews with concerned persons regarding the proposed sub-project. Through those meetings, information has been collected related to the current situation of the fish landing site and the priorities of rehabilitating needs. Social and environmental impacts, either negatively or positively, have been discussed with different stakeholders and used in proposing the environmental and social management plan (ESMP) measures, also, the meeting include sharing communities' needs, deciding the priorities, and developing the subproject design and plan.

Discussions with different official stakeholders and key staff in Fuqm area were also held focusing on the importance and beneficiaries that fishermen community will gain with the rehabilitating the fish landing site in Fuqm area with regards to improving services to the beneficiaries

A consultation focused meeting was conducted at the landing site with several fishermen and some landing officials. Another meeting was conducted with females in the landing site separately (Figure 6). The number of males who attended the meeting were 27 persons, whereas the number of females were 25. Information have been delivered to the local communities about the activities to be undertaken, the sub-projects timetable, and the work plan.

Figure 6 Shows the consultation meeting photos in Fuqm Subproject

The meeting touched on raising awareness amongst the community about cholera including the ways of transmission, symptoms, and preventive measures. In this regards, PWP team conducted the task of raising community awareness about subproject's potential risks such as safety, health, environmental, and social risks and required control measures to avoid, minimize, or offset negative impacts. The meetings focused also on raising awareness about the importance of environment in improving coastal community's livelihood, and how to protect environmental sensitive habitats. (Figure 7).


Figure 7 Awareness meetings with Fishermen and women in the landing site.

Raising awareness of the fishing communities were also conducted through public participation, as well as occupational, social, and health safety. Participation of women in the proposed project and importance of gender in development were also highlighted. Total number of fishing community who attended the meetings are 45 persons (25 males and 20 females). The team has instructed the fishing community about the importance of the Beneficiary Committee, its tasks, and the proper way for recommending or electing its members. The Beneficiary's Committee has been chosen and declared, which consists of 6 members (Annex 3). The team then conducted a meeting with the Beneficiaries Committee and trained them on carrying out their tasks, the proper way of communication, and conflict resolution principles and methods.

8.2 Public Consultation Results and Feedback

The consultation with public and key stakeholders, they have concluded several essential needs for the fishing community as a priority for their economic and social interests, so, the project plans to rehabilitate the landing site and fish market area, by rehabilitating of some existing structures and adding new facilities.

The consultation process took the form of face-to-face and group interviews with local communities' members (both males and females) and feedback collected through questionnaires and discussion. The consultation starts with a brief explanation of the nature and objectives of the subproject and potential impact and proposed mitigation measures. The consulted beneficiaries prioritize their needs which in this case are rehabilitation of fish landing center. The consulted beneficiaries have expressed their support to targeted subproject as it will have positive social impacts on the community. Some concerns were raised during the construction/operation phases and the PWP team responded to their concerns. the summary of consultation and feedback can be seen in Table 9.

Table 9 Public Consultation Findings and Feedback

Summary of Consultation for [Stakeholder of subproject #02-9-17557 in Fuqm fish landing site, Fuqm village, Al-Buriqah District]	
Date of consultation	12/09/2024
Location of consultation	For Fuqm area, the public consultations have been conducted in Fuqm landing site for male meeting and in Fishing Association office for females' meetings.

Total Number of participants (# of women / # of men)	**Total** (45), **Men** (27), **Women** (20)
Total Number of community committee (# of women / # of men)	**Total** (8), **Men** (5), **Women** (3)
Have measures been taken to ensure the inclusion of vulnerable people (e.g. the elderly, people with reduced mobility, people with special needs, illiterate people, women, etc.) (if so, who/how)?	Stakeholders were invited to attend the consultation meeting via public announcements, individual and group interviews while touring the sub-project area, in addition to informing local authorities and community leaders to attend and participate in the public consultations. The elderly and women were included in the consultations regarding their needs, and women were involved in the community committees.

Main issues/identified risks/concerns/questions/complaints (specify if male or female)	Answers from the project team	Follow-up actions (who is responsible and by when)
• Residents feared that there would be issues that could lead to the failure of the project. (Male) • Beneficiaries fear that the executing contractor will not hire them in the works during implementation. (male) • During the public consultations, residents expressed their concerns regarding the accumulation of waste generated from demolition/ construction activities, during and after the sub-project implementation. (Male) • Residents expressed their concerns about the subproject implementation starting during the fishing season. • Is there a role for beneficiary community in implementing the project? (Male) • Women raised concerns about whether there is a role for them during implementation or whether the work is reserved for men. (Female)	• It was explained to the residents that the community committee in the sub-project area is responsible for co-operation and co-ordination between the contractor and the community and resolving any issues that may arise during implementation in order to ensure the success of the project. • Contractor should be Involving the local community in the implementation of the sub-project as workers for suitable jobs. • As part of the contracts with local contractors, it was established that it is the contractors' responsibility to remove any waste resulting from demolition/ construction activities at the implementation sites. The contractors are obliged to coordinate with the local authority and community committee in the sub-project area to ensure the proper disposal of the waste in appropriate locations. • It was agreed with the residents that the implementation will not take place during the fishing season, and the work will be done section by section. • It was explained to the residents that the local community have roles in the implementation of the project by monitoring project activities, awareness raising and training, as well as by employing them as skilled and unskilled labourers with the local contractors. • It was explained to the residents that the Women can participate in project activities such as light tasks like spraying and others.	• PWP/ Technical Resident Engineer • Contractor/ Technical Resident Engineer • Community Committee (CC)/ Technical Resident Engineer • PWP/ UNDP During subproject implementation/ CC during operation.

8.3 Sustainability of Subproject and Community Ownership

PWP engages all affected parts of subproject within the subproject cycle. Consultations are conducted at various stages including consultation with the communities for selection of interventions based on focal group discussions with women and men. Formation of the community committees by electing eight members from the local fishermen and community (5 male and 3 females). Also, coordination with Local Authorities/Councils to inform on activities taking place, and the possibility of their role in operation and maintenance, in addition to their role as facilitators in case of security issues or any disputes, *etc*. Moreover, coordination with other IPs such as Small and Micro Enterprise Promotion Service (SMEPS) and other agencies in the Field. Furthermore, PWP conducts public feedback sessions with targeted communities during site visits to listen to their concerns and feedback as well as to ensure their acceptance of the interventions.

Before the subproject handing over, PWP sub-area manager invites the beneficiaries' representative to participate in this occasion. The beneficiaries' representative could be the head of the community committee, fisheries association, local council member, district manager, or any entity representing the beneficiaries. The site handing over ends with minutes of subproject handing over between PWP sub-area manager and the contractor with the signing of the beneficiaries' representative. During this occasion, the sub-area manager makes awareness to the attendance beneficiaries about the importance of the sub-project maintenance to ensure the sustainability of the intervention. Also, the community committee will have the right also to monitor this site. The fish Association will be given the responsibility to manage the activities, collect the fees, provide the services and provide the maintenance.

8.4 Stakeholders Engagement Plan

According to SFISH stakeholder engagement plan (SEP)[24], PWP will continue to engage the stakeholders during the subproject's implementation through conducting meetings with beneficiaries, community committees, and local authorities to discuss any raised issues, implementation aspects, as well as listen to stakeholders' concerns and feedback. Subarea's managers will conduct monthly meetings with community committees around ten to twelve times during the implementation to coordinate with them for the implementation and safeguard issues, conducting awareness and training sessions regarding safeguard requirements and their monitoring roles. Also, PWP resident engineers will be in continuous cooperation and coordination with the community committees and Fish Association at the sites to discuss any issues that might be raised. Furthermore, different meetings with the local authorities may be organized to work in cooperation to facilitate the implementation. In addition, at the end of implementation, meetings with beneficiaries, Fish Association, community committees, and local authorities will be organized to prepare for the subproject hand over and operation process. Also, to conduct the training for beneficiaries and community committee on the project operation and maintenance to ensure subproject sustainability.

8.5 Information Dissemination and disclosure

As part of the transparency and information disclosure process, PWP information about the subproject is disseminated in a variety of ways and at varying levels. It begins by coordinating with the local authorities to create a solid coordination framework. After that, at the local community level, public consultations and different awareness sessions are held during the preparation and implementation phases with the distribution of IEC (information, education, and communication) regarding the benefits available under the project, sustainability, environmental and social aspects, GM tools, etc. Additionally, PWP develops

[24] https://pwpyemen.org/index.php/en/media-center-en/publications/category/14-sustainable-fishery-development-in-red-sea-and-gulf-of-aden-sfish

an Arabic version of the ESMP after the document is cleared and approved, for Arabic speakers' stakeholders, and disseminates project information on the PWP website.
through the following Link can be seen the different representations of attendance during stakeholder engagement and information disclosure meetings in different neighborhoods[25].

8.6 Capacity Building

According to the ESMF, UNDP through PWP will conduct capacity building for different levels in all subproject life cycle and also in operation and maintenance phase. An annual comprehensive training is always done for PWP main and sub-areas staff in which revision and updates are reflected according to the World Bank's new ESF.

During the public consultation, awareness was given covering all topics. The executive staff[26] as the main responsible for managing projects implementation at the governorates level will have training sessions in place on their responsibilities, liabilities, risk\impact assessment and planned mitigation measures and they should sign their commitment to these procedures. Also, plan for mitigation measures will be represented, and they should sign their commitment to apply these procedures. Also, another training will take place for resident engineers where every person's responsibility, implementation procedures, needed forms, risk assessment methods, and general OHS procedures will be explained. As part of the procedures for -project site handing to the contractor, PWP sub-area representatives will conduct awareness sessions for workers, community committees, and some of the community members that will represent the required Environmental, social, and OHS aspects needed in the implementation phase. During the implementation phase, different awareness sessions should be done in the different sub-projects period. The resident engineer with help from the contractor OHS assistant will conduct daily awareness sessions as much as possible in which works daily expected risks should be clarified for workers. GBV&SEA, GRM, code of conduct will be part of this awareness as well. Every two weeks, PWP sub-area assistant will raise the awareness of workers and local communities during the site visit. PWP sub-area managers will conduct awareness raising sessions for workers and local community monthly as well. The procedures for project maintenance on project site handing, will be explained to local authorities, Fish Association, and communities' committees as part of the project closing phase.

9 Grievance Mechanism[27]

As part of an ongoing move to improve its accountability, PWP has developed a Grievance Mechanism (GM) system for managing, responding to, and monitoring issues within its Programs. The accumulated experience in PWP to respond and interact with all partners and beneficiaries enables it to improve and adopt an efficient GM, focusing on institutionalizing the experience in dealing with complaints and mainstream it in the system context. GM awareness sessions have been conducted to explain the mechanism and introduce the system to the local communities, including female members and workers. GM brochures distributed to the local community that have full details on the system and complaint boxes placed in the subproject sites which will be opened weekly in a formal meeting with supervision from the local community committee -that is selected earlier during the early intervention stage. The complaints are then registered and classified according to their type and raised to branch offices to be addressed and solved. Other communication means also introduced to beneficiaries and listed below:

- Complaints box at subproject location which is open every week

[25] https://docs.google.com/document/d/1LvJ8f76OjKqmPx9_pNfATBse6TaaXWBNSJVRCnolNhs/edit?usp=sharing

[26] The contractor, supervisor engineer, and contractor OHS assistant.

[27] For more information see link https://docs.google.com/document/d/16PNeo62NkCqmTOwOPveMqfzlYMBSUaNcYROjBv6nQus/edit

- Telephone: 8002626
- SMS, Telephone, and WhatsApp Number 775626262
- Face to face during visits of PWP teams.

PWP has GM staff at Head Quarters (HQs) and locally at the subproject for GM handling. Each complaint is resolved either at the field by the Supervisor, or the Branch Office Manager or raised to the HQ. Complaints received through GM channels are registered in the system and treated seriously, regardless of their source, including anonymously and oral complaint which is registered and treated in the same way. The GM officer at the branch office receives and registers and refers complaints to the branch manager for necessary action and follow-up. The branch manager informs HQ and liaises with the gender coordinator to address the complaints. An investigation is carried out with relevant parties, supervised by the branch manager, and coordinated with the gender coordinator. A committee of males and females may be sent to the field to complete the investigation if necessary. The gender coordinator studies the investigation results and develops recommendations for the head of the safeguarding unit to settle the cases accordingly. The head of the safeguard's unit raises the case to the Executive Director, and the Managing Director makes the final decision and settles the case. This process ensures all complaints are thoroughly investigated and addressed with appropriate action. For the SEA/SH complaints a short confidential and secure method procedures exist to collect data, investigate, and take action, where a committee is established to investigate the matter.

Annexes

Annex 1- Typical Drawings

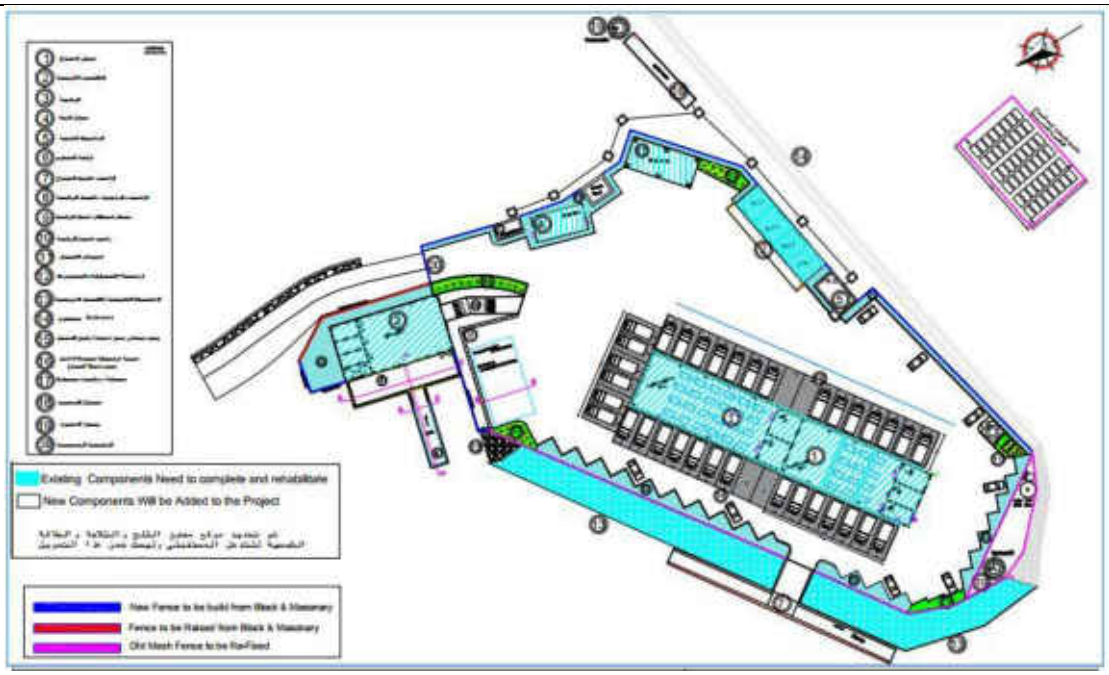
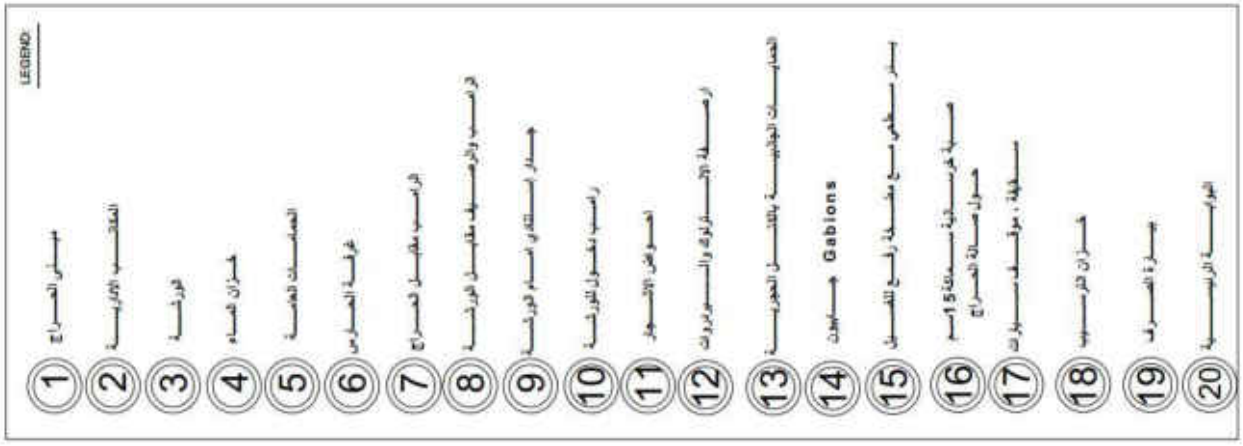


Figure 8 The Master plan for Fuqm Landing Site



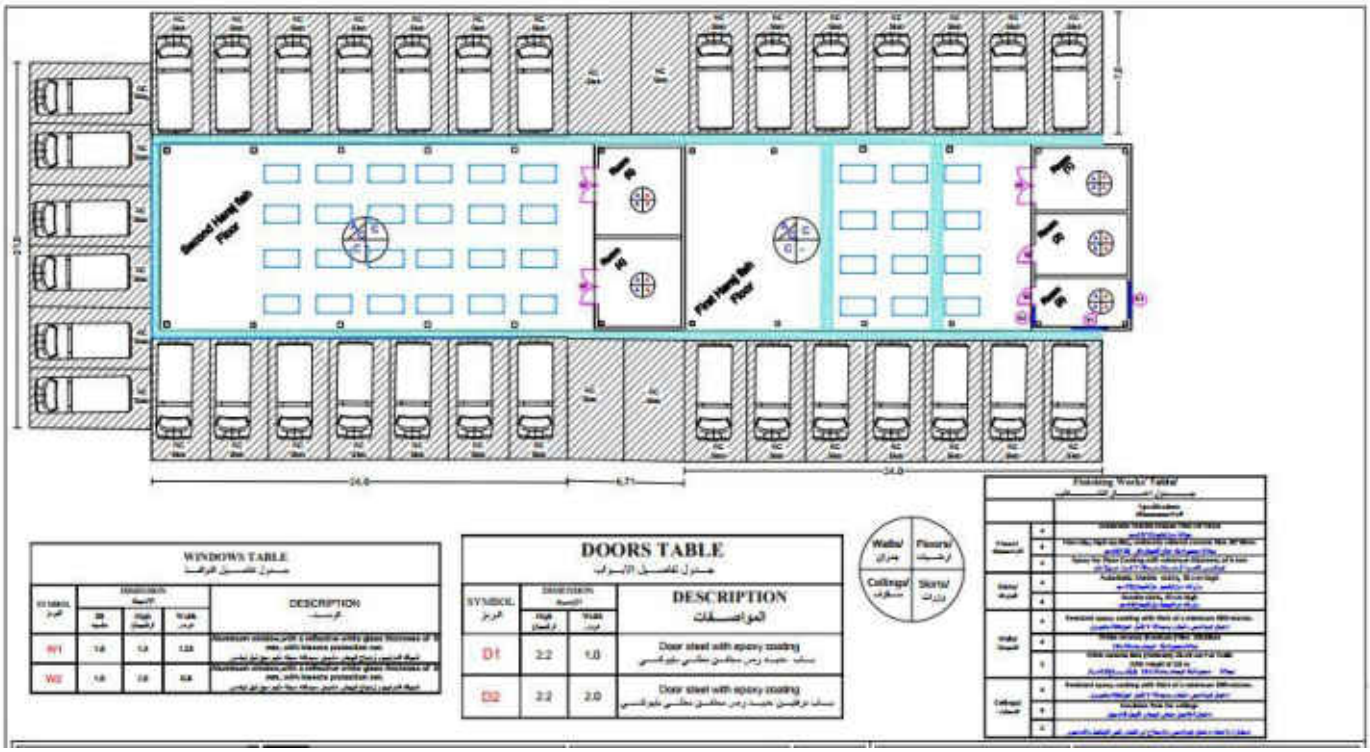


Figure 9 The plan of auction hall

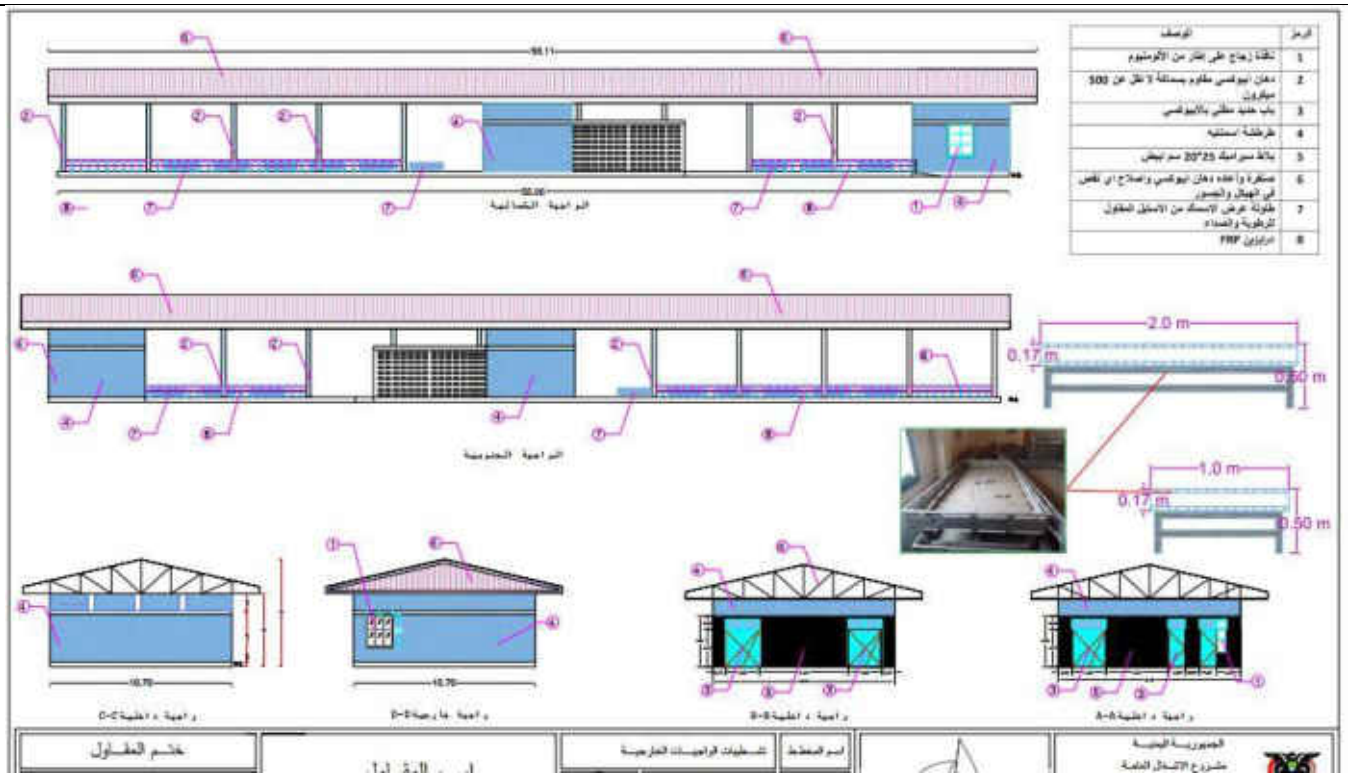


Figure 10 The front of the auction hall

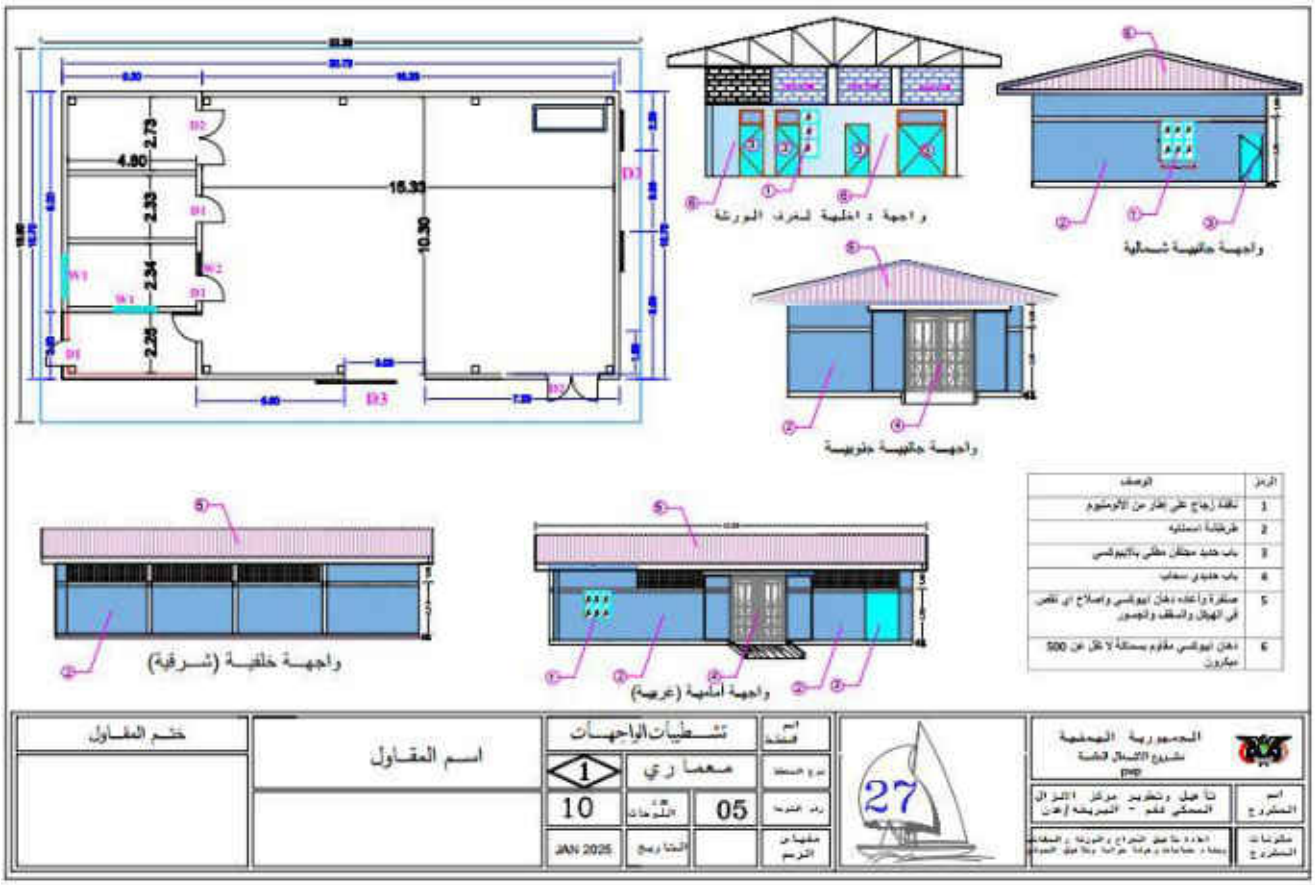


Figure 11 The boat maintenance building

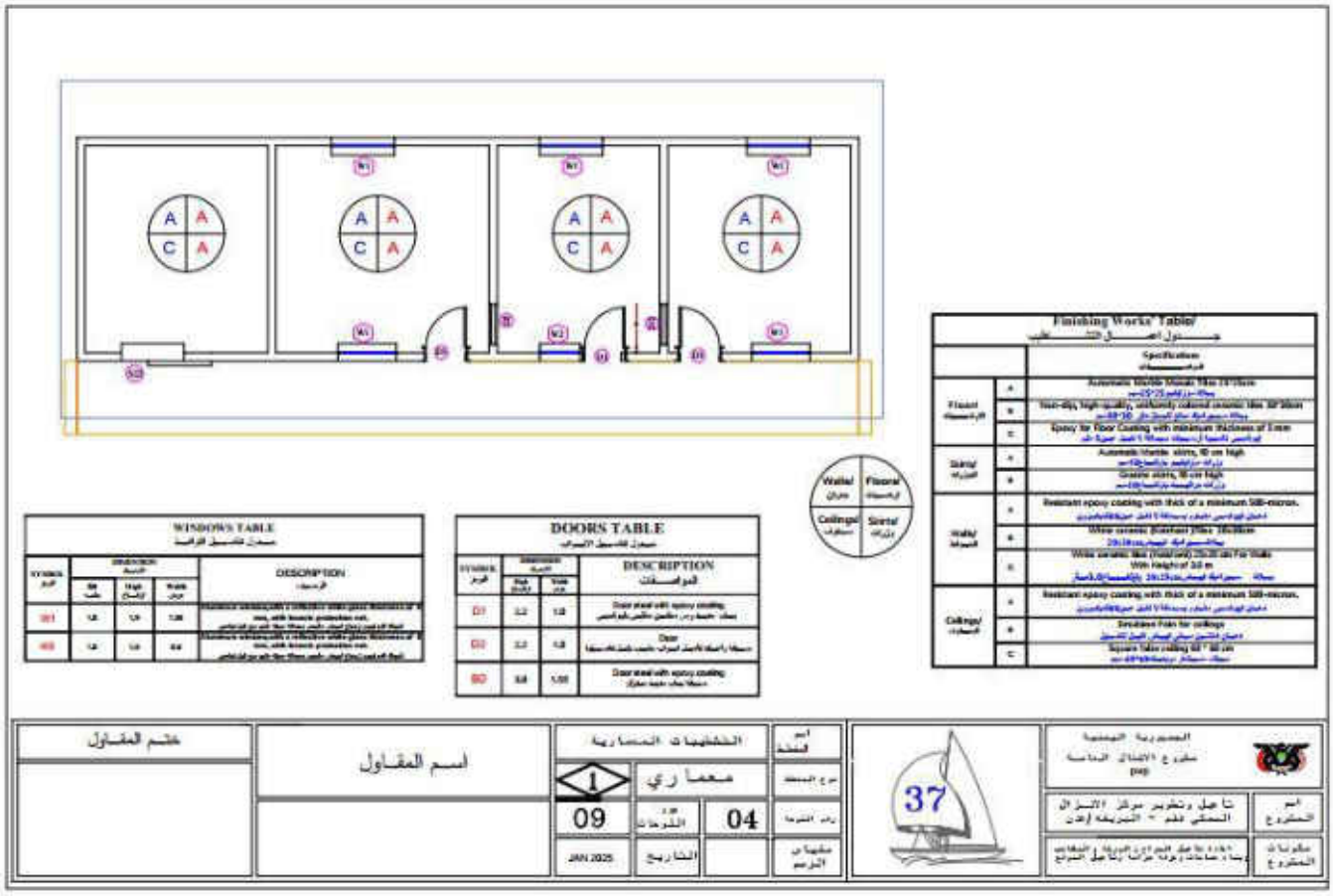


Figure 12 The administrative office

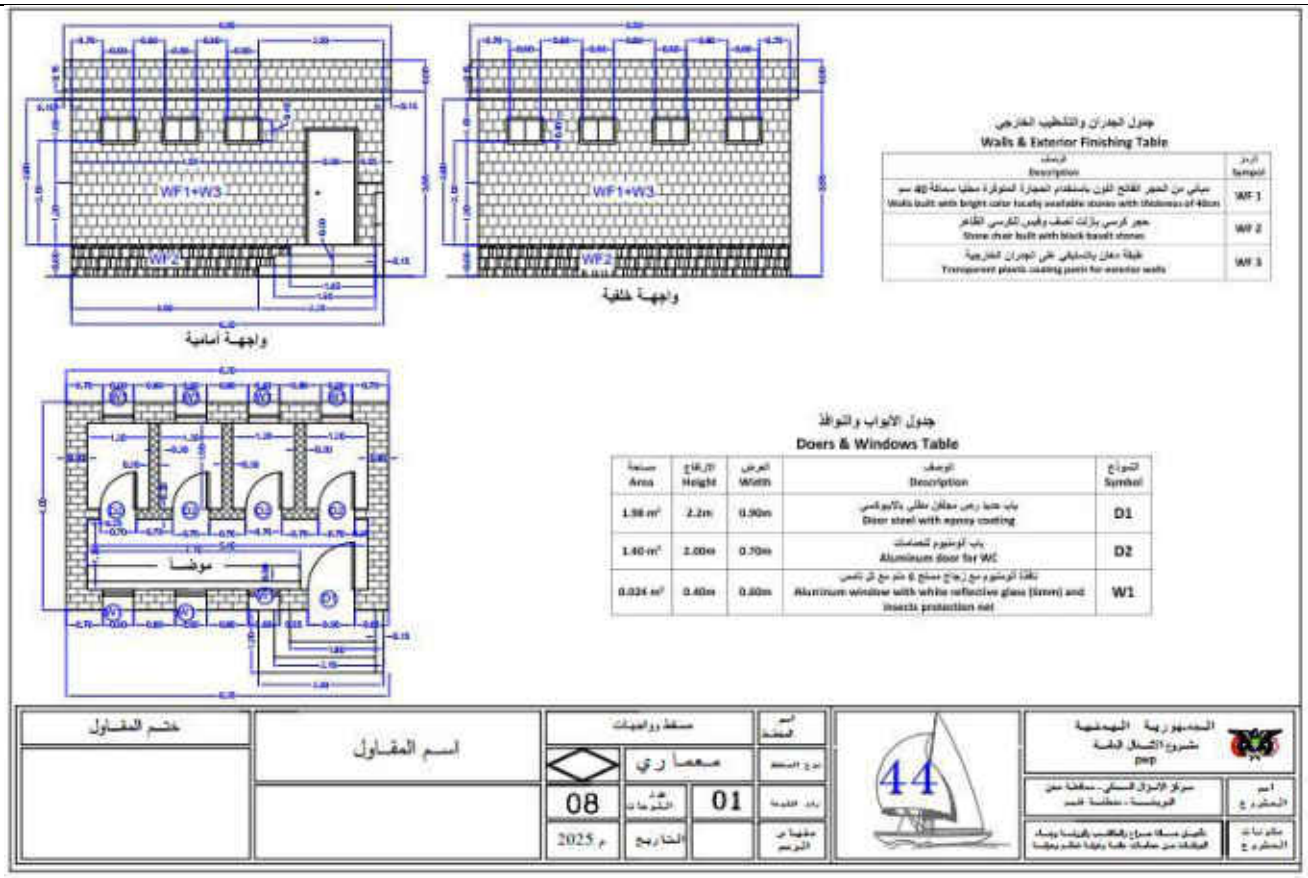


Figure 13 The toilets building

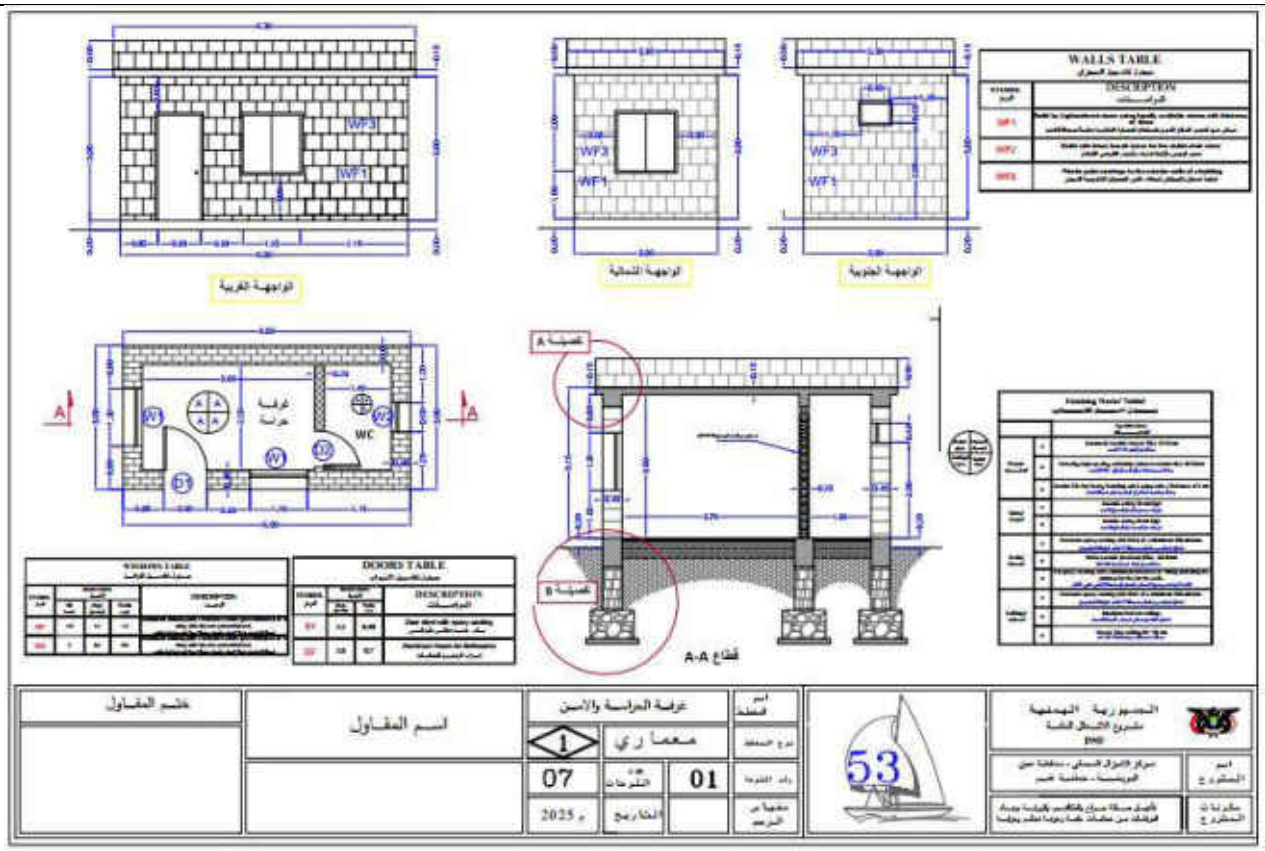


Figure 14 The guard room building

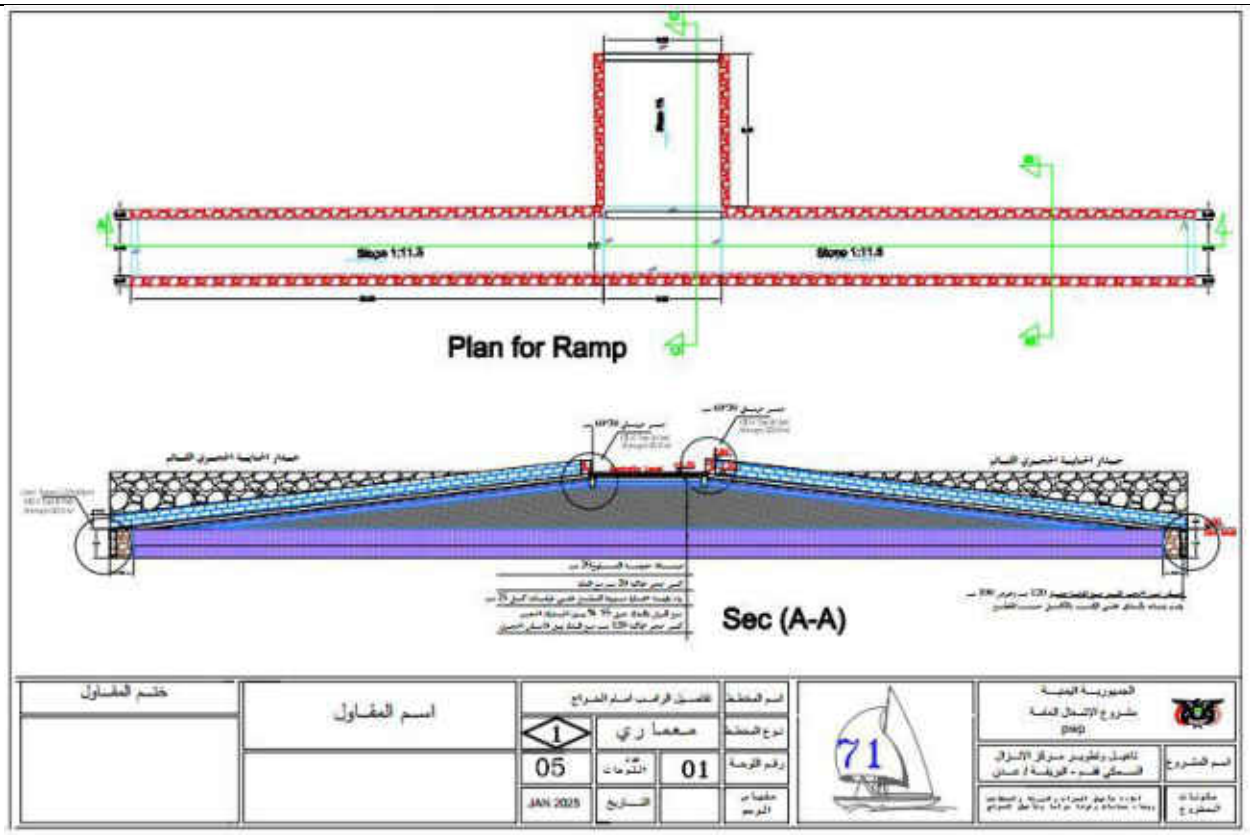


Figure 15 The Boat Ramp

Annex 2– Environmental and Social Screening Checklist

Table 10 PWP Environmental and Social Checklist

Sub-Project No.	02-9-17557
1: The Natural Environment	Answer (NA, minor, moderate, substantial, or high)
1.1 Are there any environmentally sensitive areas or threatened species that could be adversely affected by the subproject (specify below)? - Intact natural forests - Riverine forest - Wetlands (lakes/rivers/seasonally inundated areas). If yes, how far are the nearest wetlands (lakes, rivers, seasonally inundated [flooded] areas)? Habitats of endangered species for which protection is required under Yemeni laws and/or international agreements. - Marine sensitive Areas. - Others (describe) (e.g., cultural sites, burial places, etc.)	 No No No No No
2.Fauna and Flora	
2.1 Will subproject involves the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?	No
2.2 Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?	No
2.3 Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes, disturbance of wildlife habitats, and noise-related problems?	No
3.Destruction/Disruption of Land and Vegetation	
3.1 Will the subproject lead to unplanned use of the infrastructure being developed?	No
3.2 Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	No
3.3 Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?	No
3.4 Will the subproject lead to landslides, slumps, slips, and other mass movements in soil?	No
3.5 Will the subproject lead to erosion of lands?	No
3.6 Will the subproject lead to health hazards and interference of plant growth by the dust raised and blown by vehicles?	No
4. Protected areas	
4.1 Does subproject occur within/adjacent to any protected areas designated by the government (national park, national reserve, world heritage site, etc.)	No
4.2 If the subproject is outside of, but close to, any protected area, is it likely to adversely affect the ecology within the protected area (e.g. interference with migration routes of mammals or birds)	No
4.3 Would this project increase the current impact on the surrounding environment for example by using more water, chemicals, or machinery than previously? If yes HOW **More water will be used for construction process as well as water that are going to be used during operation for toilets, cleaning and washing in the auction yard, *etc*. Chemicals will be**	Moderate

used temporarily during rehabilitation of the landing site through painting processes and possible oil spills from fishing boats if not managed properly during operation phase.	
5. Geology and Soils	
5.1 Based on visual inspection or available literature, are there areas of possible geologic or soil instability (erosion-prone, landslide-prone, subsidence-prone)?	No
5.2 Based upon visual inspection or available literature, are there areas that have risks of a large-scale increase in soil salinity?	No
6 Landscape/aesthetics	
6.1 Is there a possibility that the subproject will adversely affect the aesthetic attractiveness of the local landscape?	No
7. Historical, archaeological or cultural heritage site	
7.1. Based on available sources, consultation with local authorities, local knowledge, and/or observations, could the subproject alter any historical, archaeological, or cultural heritage site or require excavation nearby?	No
8. Resettlement and/or Land Acquisition	
8.1 Will the subproject require land acquisition?	No
8.2 If so, will this land acquisition be involuntary?	-
8.3 If so, will this involuntary land acquisition lead to relocation or loss of shelter, loss of assets, or access to assets?	-
8.4 If so, will this involuntary land acquisition lead to loss of income sources or means of livelihood (whether or not affected persons must move to another location)?	-
8.5 Will the subproject lead to involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of displaced persons?	No
8.6 Will the subproject led to permanent physical or economic displacement?	No
8.7 Will the subproject led to temporary physical or economic displacement?	No
8.8 Will the project bring about consolidation or adjustment of tenure rights?	No
9. Noise pollution during Construction and Operations	
9.1 Will operating noise level exceeds allowable/ambient noise limits?	Minor
10. Solid or Liquid Wastes, including Medical Waste	
10.1 Will subproject generate large amounts of residual wastes (solid or liquid wastes), including medical waste?	Moderate
10.2 If “Yes”, does the subproject include plan for collection & disposal?	Yes
11. Pesticides, Insecticides, Herbicides or any other Poisonous or Hazardous Chemicals	
11.1 Will the subproject require the use of such chemicals?	Minor
11.2 If, “Yes”, does the subproject include plan for safe handling, use & disposal?	Yes
12. Water and Soil Contamination	
12.1 Will the subproject require large amounts of raw materials/construction materials?	Minor
12.2 Will subproject generate large amounts of residual wastes, construction material waste, or cause soil erosion?	Moderate
12.3 Will the subproject result in soil or water contamination (e.g., from oil, grease, and fuel from equipment)?	Minor
12.4 Will the subproject lead to contamination of ground and surface water bodies by herbicides for vegetation control and chemicals for dust control?	No
12.5 Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, a decline in water quality & increased sedimentation downstream?	No
12.6 Will subproject lead to the destruction of vegetation and soil in the right-of-way; borrow pits, waste dumps, and equipment yards?	No

12.7 Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging mosquito breeding and other disease vectors?	No
12.8 Will this project include the development of a large irrigation scheme?	No
12.9 Will this project aims at improving an irrigation scheme (without expansion)?	No
12.10 Will this project change the water quality and quantity in the project area or areas connected to it	Minor
12.11 Will this project involve the intensification of production systems that leads to land-use changes (e.g., deforestation), higher nutrient inputs leading to soil or water pollution, changes in water regimes (drainage, irrigation)?	No
13. Decent Work	
13.1 Will this project affect the current or future employment situation of the rural poor and in particular the labor productivity, employability, labor conditions, and rights at work of self-employed rural producers and other rural workers?	No
13.2 Will this project affect the labor conditions, child and force labor?	No
14. Gender Inclusion Risks	
14.1 Could this project risk overlook existing gender inequalities in access to productive resources, goods, services, markets, decent employment, and decision-making? For example, by not addressing existing discrimination against women and girls, or by not taking into account the different needs of men and women	Minor
14.2 Will this subproject pose risk on community related to sexual harassment, sexual exploitation and abuse.	NO
14.3 Will this subproject cause any conflict among communities	NO
15. Indigenous People	
15.1 Are indigenous peoples present in the Project area (including Project area of influence)?	NO
15.2 Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	NO
15.3 Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples?	NO
15.4 Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	NO
16. Community Health, Safety	
16.1 Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	Minor
16.2 Would the Project pose potential risks to community health and safety due to transport, storage, construction?	Minor
16.3 Would the Project pose potential risks to community health and safety due to the use and/or disposal of hazardous or dangerous materials (e.g., explosives, fuel, and other chemicals during construction and operation)?	No
16.4 Would failure of structural elements of the Project pose risks to communities? (e.g., collapse of buildings or infrastructure)?	No
17. Working Conditions	
17.1 Would the Project result in potential increased health risks (e.g., from water-borne or other vector-borne diseases)?	No
17.2 Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	Moderate
17.3 Will the Project activities cause any risks for workers during the construction?	Moderate

Annex 3: Selected Beneficiaries Committee

Members of the Beneficiaries Committee have been chosen unanimously by the attendees, and their names are in the following table:

Table 11 Members of the Beneficiaries Committee

No	Member's Name	Sex	Position	Phone No.
1	Awad Ali Awad Ahmed	Male	The Head	
2	Fawzi Musaed Al-Hariri	Male	Member	
3	Ahmed Rashidi	Male	Member	
4	Suleiman Youssef Suleiman Mazjaji	Male	Member	
5	Rashidi Mahmoud Rashidi	Male	Member	
6	Rima Yaslam Mohammed Ahmed	Female	Member	
7	Yasmin Saleh Awad	Female	Member	
8	Mervat Abdullah Mahmoud	Female	Member	

Annex 4 - PWP Environmental and Social Responsiveness (ESR) Criteria at Proposal Stage

Note: To be selected and filled according to project type based on PWP baseline study

Table 12 PWP Environmental and Social Responsiveness (ESR) Criteria at Proposal Stage

Proposal Title	Rehabilitation and Development of Fuqm Fish Landing Site
Proposal Location	Aden governorate
ESR Criteria at the Proposal Stage	Confirmation Write Yes or No
Consultation with the local community including a community leader, men, women, and girls were conducted in the proposal stage regarding the design and location of the project. Their opinions were included in the proposal.	Yes
Poor and vulnerable beneficiaries were defined, and the community was obliged to providing help for them in the rehabilitation and development of fish landing center subproject implementation.	Yes
The project will not have a significant adverse environmental and social impact.	Yes
The project will not raise land acquisition problems.	yes
Stakeholders are aware of the PWP policy and have agreed to follow/apply them towards a successful implementation of the rehabilitation and development of fish landing center.	Yes
Targeted beneficiaries are highly in need of this project.	Yes
All communities including (Male, female) will benefit from the intervention.	Yes
The operation and maintenance requirements of the project were explained to the community, and an acceptable system was developed for this purpose.	Yes
Responsibility for operation and maintains are defined and committed by community committee.	Yes
Local communities are aware of project risks and GM.	Yes
The project will not cause any conflict among communities	Yes
If the answer to any of the above questions is 'NO' then the project will be dropped at the proposal stage. If the answer is 'Yes' then incorporating this information in the project proposal	

Annex 5 - PWP Checklist of Expected Environmental and Social Impacts to be Addressed at the Design Stage

Table 13 PWP Checklist of Expected Environmental and Social Impacts to be Addressed at the Design Stage

Project Name	Rehabilitation and Development of Fuqm Fish Landing Site
Project Location	Aden governorate
Check List of the E&S Issues to be Addressed for construction subproject at the Design Stage.	Confirmation Write Yes or NO
The relevant authorities were consulted on the design and all their observations were taken into consideration.	Yes
The design of the project will include the ES & OHS monitoring plan	Yes
The project design will ensure local community participation during implementation.	Yes
The design and the construction/rehabilitation materials for example stone are in harmony with the surrounding environment and the architectural character of the city.	Yes
GM tools have been included in the project document.	Yes
A safe work plan has been developed to project activities to control risks.	Yes
OHS measures and Personal Protection Equipment (PPEs), were added to the bidding documents.	Yes
Temporary latrine and wash hand facilities have been included in the project document.	Yes
If any of the answers are "No", then the reasons must be stated in the design report.	

Annex 6 - Social agreements and A land document for the benefit of fisheries - Arabic

Figure 16 Social agreements and A land ownership

Annex 7 – PWP Complain Handling Mechanism

Figure 17 PWP Complain Handling Mechanism

Figure 18 PWP Complain Handling Mechanism