PUBLIC WORKS PROJECT
مشـــروع الأشـغال العامة

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

Environmental and Social Management Plan (ESMP)

No.04

For the

Rehabilitation and Development of Fish Landing Site, Ar-Raydah Landing Center

July, 2024

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ABBREVIATIONS

CoC	Code of Conduct
CSO	Central Statistical Organization
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
ESCP	Environmental and Social Commitment Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
GAF	General Authority for Fishing
GBV	Gender-Based Violence
GNI	Gross National Income
GM	Grievance Mechanism
HQ	Head Quarter
ID	Identification Card
IPs	Implementing Partners
OHS	Occupational Health and Safety
PWP	Public Works Project
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SFD	Social Fund for Development
SFISH	Sustainable Fishery Development in Red Sea and Gulf of Aden
SMEPS	Small and Micro Enterprise Promotion Service
TPM	Third Party Monitoring
UN	United Nations
UNDP	United Nations Development Program
WB	The World Bank
WHO	World Health Organization

1. Introduction

This environmental and social management plan (ESMP) has been prepared under the umbrella of the SFISH environmental and social management framework (ESMF[1]), which was prepared in accordance with the requirements of the World Bank's Environmental and social Framework (WB's ESF).

The targeted landing site is located in *Ar-Raydah Ash-Sharqiah* (Eastern Raydah), which is a part of *Ar-Raydah Wa Qusayar* District, Hadhramaut Governorate. The PWP is seeking the development of the existing fish landing site by taking into consideration the social and environmental standards that are adapted by the WB' Environmental and Social Management Framework (ESMF). The project will be implemented by the Public Works Project (PWP) which has experience in adapting subprojects to environmental and climatic conditions, as well as taking into consideration services and facilities to coastal communities including women, in addition to improving solid waste management systems. The total cost of the subproject is estimated to be 500,000 USD. Table 1 provides some general information about the proposed sub project.

The preliminary environmental and social screening of the landing site (Annex 2 Environmental and Social Screening Checklist) has been carried out by Public Works Project (PWP[2]) during the field visit to the site area. Based on the anticipated environmental and social risks and impacts of the current subproject, and the classification of the projects that are funded by the World Bank (WB), the current project is categorized under this ESMP as Moderate environment, social, and occupation health and safety Risk Project. During the field visit, the technical, Social, and environmental team have collected important information from the concerned stakeholders in the area, including fishermen community and local authorities (local council, Director of Fish Landing Project, etc.). The field visit included also an inspection of the already existing condition of the landing site constructed buildings and needed interventions to get it ready for fishing activities.

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

The social impacts during the intervention are also reversible and temporary. Child labour, SEA/SH, social exclusion of communities including vulnerable groups (Women, persons with disabilities and the youth) conflict sensitivity, and poor labor management, which could be avoided by following proper social management measures in accordance with the WB's Environmental and Social Standards (ESSs) and relevant national laws.

[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] PWP: is UNDP's implementing partner, who responsible to prepare and implement SFISH subprojects.

Table 1 General Information about the Proposed Subproject.

Name of the Subproject:	Rehabilitation and Development of Ar-Raydah Fish Landing Site
Subprojects ID:	07-9-16079
Subprojects Locations	*Ar-Raydah Ash-Sharqiah*, *Ar-Raydah Wa Qusayar* District, Hadhramout Governorate.
Sector and Type of Subproject:	Fisheries Sector
Implementing of the Subproject:	Public Works Project (PWP)
Estimated Cost of Subprojects:	US$ 500,000
Estimated ESMP Cost	25,700 US$
Implementation period	12 months
Field Visit (Yes/No; Include Date):	Yes, February 2023
Was Consultation Carried out? (Yes/No):	Yes, Refer to Public Consultation Section
Proposed Class of Subproject (Low to High):	Moderate

2. Sub-Project Description

The current proposed project includes the rehabilitation and development of the already existing fish landing site located at the coastal zone of Hadhramaut Governorate. The targeted landing site is placed at *Ar-Raydah Ash-Sharqiah* (Eastern Raydah), *Ar-Raydah Wa Qusayar* District, which is located to the east of the governorate.

Ar-Raydah landing site 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 Hadhramaut governorate beside shihr, Mukalla and other landing sites, which suffer of lack services such as ice, refrigerators, etc. so Ar-Raydah fishermen landing their catch in nearby landing sites which constitute additional cost on Ar-Raydah fishermen. Approximately, 45,000 m^2 is allocated by the local authorities to the landing site for the current existed construction and future development. The present condition of landing site construction is in a bad shape as a result of climatic harsh conditions and it has to be rehabilitated.

The intervention of PWP will include surveying works, removal of deteriorated constructions, levelling of the landing site in addition to excavation and filling works. At the meanwhile, the ice factory rehabilitation will not be included and will be considered in later interventions. The objective of this sub-project is to help in providing appropriate facilities that help fishermen and fishing communities to improve their fishing processes and capacity to adapt to different conditions. As a result, this will create several opportunities for beneficiaries to improve production and provide them with additional income.

It is expected that this sub-project will serve approximately 12,488 persons[3] beneficiaries, out of which, 6,619 males and 5,869 females. Particularly, the project will have a direct positive impact on 955 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 cost of ESMP implementation will be 25,700 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 this ESMP budget.

Contractor will hire the workforce from the targeted areas. Given the fact that some parts of the activities require skilled labor, 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[4]. In coordination 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 addition, the contractor will bring tents, beds, blankets, and suitable kitchen facilities in terms of minimum space $4m^2$ per worker according to International Finance Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD) worker's accommodation 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, handing 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 Technical Vocational Education Training (TVET) centers, and Yemeni Fishery Exporters' Association.

This sub-project will enhance the living environment and conditions for targeted communities. As a result of the subproject, targeted communities will improve the capacity for sustainable production and economic opportunities for beneficiaries across the fishery by provide landing infrastructure and services to reduce harvesting losses and a platform for the regulating authorities to implement fisheries management measures. Furthermore, the project will provide 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.

[3] According to 2022 projections that based on 2004 census.

[4] The project will require accommodation since it expects that workers will come from the surrounding areas and need accommodation. In coordination, with PWP and community committee, the contractor will provide a suitable accommodation for them to settle in during the implementation period. The contractor also will bring tents and temporary toilets to be used for workers accommodation in terms of minimum space 4m2 per worker. Prepare the Septic tank and connect it to the bathrooms in case proper sewage disposal for the latrine's wastewater is not available.

The contractor will be responsible to protect its workers and communities during implementation and apply the environmental and social mitigation measures and provide the required training, tools, and necessary protection equipment for workers.

The PWP will ensure that the proposed subproject incorporates the proper environmental and social risk management principles and practices, and thus complies with the Environmental and Social Framework (ESF) of the World Bank, as well as with the applicable environmental policies and legal requirements of the Government of Yemen.

2.1. Scope of Work[5]

Ar-Raydah landing site is in a bad shape as climatic harsh condition has deteriorated it and therefore the site is in deep need to be rehabilitated. The proposed project will involve rehabilitation and reconstruction of the already existing concrete buildings of the landing site, as well as removal of deteriorated auction hall and old ice factory structures which does not have asbestos material, levelling of the landing site in addition to excavation and filling works, and surveying works.

The project will also include reconstruction[6] of existing auction hall and its required administrative offices, completion of the existing wall and the guard room, providing a landing site with a water service, construct electricity generator room, and sanitary system (Toilets, sewage network, a septic tank for collecting sewage, and soakaway pits to dispose treated wastewater (the septic tank operation based on an aerobic bacteria which digest sludge, after that the treated wastewater will flow to soakaway pit to permeate in soil layers.), 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. In the current phase, there will be no intervention to rehabilitate and operate the ice factory. The subproject activities will include but are not limited to the following:

- Demolishing deteriorated buildings including collecting and transporting construction waste to areas appointed by local authorities[7].
- Site levelling works for an area of about 1,433 m^2.
- Excavation works for an area of 394 m2 and depth 2,0 m, no more than 3 meters width, and no less than 2 meters long for the foundations.
- Backfilling works in layers using the extracted soil or proper materials in all part of works.
- Supply the construction materials such as stones[89], sand, and gravel.
- Implement masonry works under the ground beams.
- Constructing walls with cement mortar and stones for fronts.

[5] Scope of work is based on general Scope as the technical study for this ESMP is still under preparation.

[6] In case of building landing sites, Yemeni Law No. 2 for the year 2006 encouraging the government to support fishermen communities by developing their villages as well as establishing the infrastructure including landing sites, taking into consideration the protection of coastal and marine environment.

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

[8] Stones will be brought from local market, The standard stones dimensions are (25*25*25) cm. 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, hoists and pulley systems, crane , and safety equipment. List of materials such as stones, cement, sand, and water.

- **Plain concrete works including:**
  - Under the foundation for an area of about 394 m2.
  - For the floors of the buildings, about 809 m2.
- **Reinforced concrete works including:**
  - For foundations which have a total size of about 185 m3.
  - For ground beams, slabs, columns, stairs and ramps about 344 m3.
  - For the roofs, about 809 m in height 5.6 m.
  -
  - For the drainage channel in the auction hall about 10 m3, that will drain liquid wastes directly to the soakaway pit system see drawings in Annex 1 of the Typical Drawings.
- Implement concrete block building in the auction hall.
- Cement plastering works for interior, and external walls and roofs.
- Interior and exterior paint works, including the base and final layers
- Tile works for the building, stairs and walls.
- Installation of durable, and corrosion resistance steel doors, and aluminium doors.
- Installation of high-quality aluminium windows.
- **All sanitary works including:**
  - Supply and Installing toilets, and disabled toilet accessories handrail- Adjustable toilet).
  - Supply and Installations sanitary pipes of 6 and 4 inches in diameter with 324 m in length and depth 0.60 m.
  - Supply and Installations rainwater drainage pipes, 4 inches in diameter with 92 m in length.
  - Construction of Inspection chamber rooms and Gully Trap (100X100) cm.
  - Supply and install HDPE Manholes with diameter 1m and depth from 1 to 1.5 meter.
  - Supply and install HDPE septic tank with total Volume 5,000 m3, and implement two soakaway pits[10] one for auction hall with discharging directly and the other from bathrooms to septic tank then to another soakaway pit.
  - Supply and installation of a water supply network from tanks to new buildings, ¾" inches in diameter and 76 meters long.
  - Supply and installation: 7 fiberglass tanks for sea water storage and usage with a capacity of 3, 2, 1.5 cubic meters.
  - Drilling an artesian well with a diameter of 18 inches, 13-meter depth and installing the submersible pump and testing the productivity and analysing a water sample which will be used only for washing. The well is a salt water well and will be used to obtain brackish/sea water to use in the landing sites.

Road and parking works

- Gravel backfills for roads and parking vehicles.

Other works

- Supply and installation16 fire extinguishers for buildings, generator room, and fuel station.

[10] A soakaway 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 (soakaway) instead of contaminating nearby water sources.

- Supply and Implementation of insulation layer of roofs and floors (Flow-applied epoxy resin floor layer).

- **All electrical works.**
  - Installing the electricity control room.
  - Works for connecting the electricity to the buildings.
  - Electrical wiring works in roofs, floors, and walls.
  - Supply and installation the electrical equipment and accessories of the project.
  - Supply and installation the main electrical distribution board.
  - Supply and installation lighting fixtures.
  - Supply and installation electrical roof mounted fans.
  - Supply and installation electric socket.
  - Supply and installation ventilation exhaust fans.
  - Supply and installation roadway luminaires.
  - Supply and installation earthing system.
- Planting native non-invasive trees around the sub-project area.
- Collecting and transporting the construction waste residues to areas appointed by local authorities.

2.2 Location

Ar-Raydah landing site is located at the eastern coastal strip of Hadhramout Governorate. It is about 2 km far from Ar-Raydah town, and 160 km far from Al-Mukallah City: the capital city of Hadhramout Governorate. The shoreline of Hadhramout Governorate extends for approximately 303.9 km, the overlooks the waters of Gulf of Aden (Figure 2). It is characterized with its northeastern direction with a mixture of straight long coasts intervened with several wave-cut platform **s**uch as *Ras Rajemah, Ras Dhaloma, Ras Broom, Ras Khalf, Ras Sharma, Ras Baghashwa, Ras Rayqoob*, *etc.* Ar-Raydah wa Qusayar District is one of the six coastal districts in Hadhramout Governorate. This district has a coastal line of about 64.2 km in length.

The landing site is about 2 km far from the international highway that is connecting Hadhramout Governorate with neighboring Al-Mahra Governorate it is 20 kms to the east of the major fish landing site at Qusayir being rehabilitated by GIZ and 22 kms to the west of Musainah fish landing site. Access road passes through a village which is 0.7 km from the landing site (Figure 3). Table 3 shows the name of the sub-project and its coordinates of the Location:

Table 2 Subproject coordinate

Governorate	Subproject-ID	Sub-project title	N	E
Hadramout	07-9-16079	Rehabilitation and Development of Ar-Raydah Fish Landing Site	15° 01” 32’	50° 28” 48’

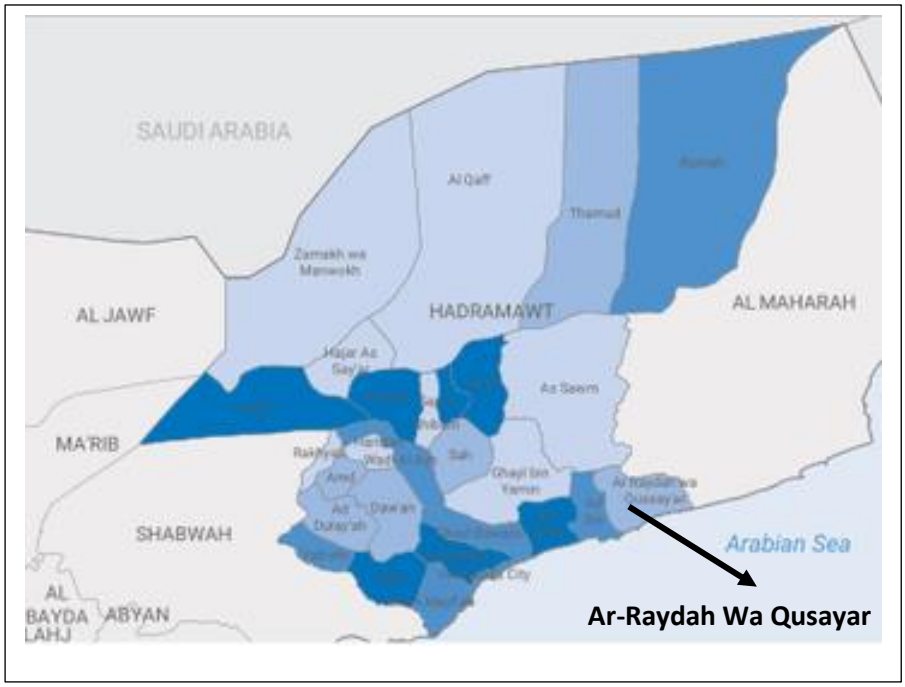


Figure 1 Yemen division map shows the location of Hadhramaut Governorate and its districts.

As the landing site prone to extreme events, mainly from cyclonic activity in the Northern Indian Ocean, such as what happened in 2008 tropical cyclone Deep Depression ARB 02 (2008), caused a severe rain and flash flooding in Hadhramaut valleys with water surges reaching up to 18 m in some areas. This intervention takes in consideration that risk in design stage by strengthening structure elements and use durable materials to resist extreme storms.

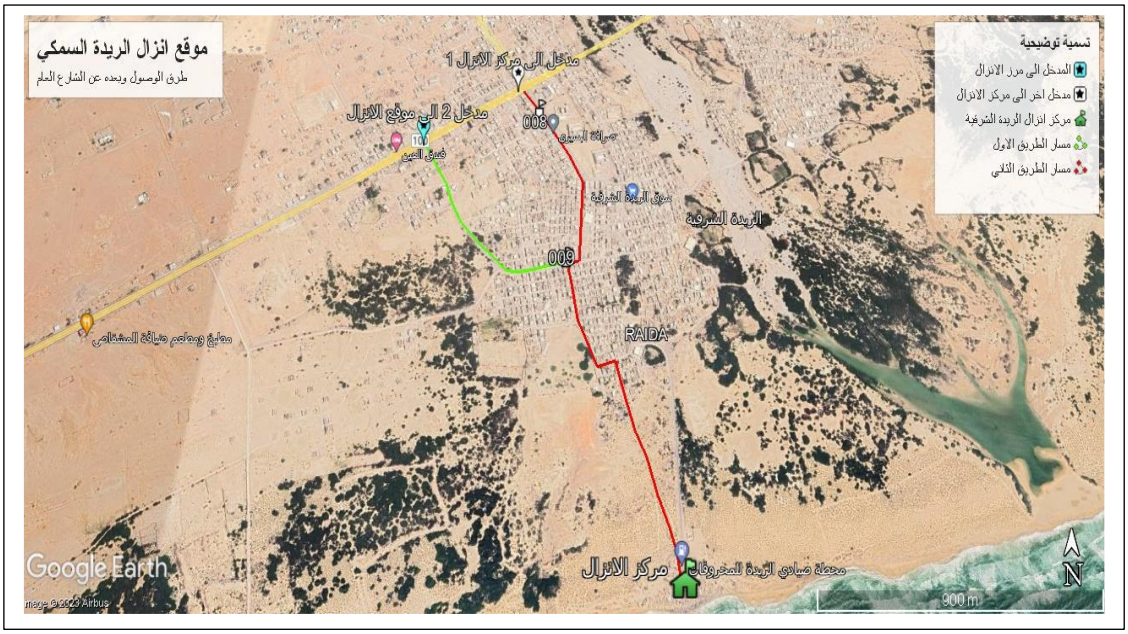


Figure 2 Location of the landing site

3. Environmental and Social Baseline Condition

3.1. Introduction

Hadhramaut governorate is one of the seven coastal governorates in the southeastern part of the Republic of Yemen. It is approximately 794 kilometers east of the capital of Sana'a, between Al-Mahra to the east and Al-Jawf, Marib, and Shabwah to the west. The governorate is divided administratively into 28 districts, out of which six districts are coastal, with the city of Mukalla as the governorate's capital. Hadhramaut is the largest governorate of Yemen by area and has a coastline of about 303.9 km^3. The population of Hadhramaut governorate, according to the 2022 projection, reached (1,604,547) people, with a population annual growth of (3.08%). The socioeconomic profile in Hadhramaut is represented by agriculture, animal husbandry, fishing, and bee farming.

Ar-Raydah landing site is located at the southern coastline of the Republic of Yemen. It is a part of Ar-Raydah wa Qusayar District which has a coastline of approximately 64.2 km in length. According to the 2022 projection that is based on the 2004 Census, Ar-Raydah city has a total population of 12,488 out of which 6,619 are males 5,869 are females.

Although, the fragile situation in the country and its entities in addition to the Cyclones in the last years, Ar-Raydah Landing site is still operating and giving minimum services to the beneficiaries. On the other hand, some services went out of the service and others destroyed through the cyclones. Highest tides occur at two times each month (spring and neap ties depending on moon cycles). According to the beneficiaries, the fishing boats mainly suffer from the difficulty of reaching to the shore especially during the south monsoon months of June to September . The fish prices are usually high because of insufficient selling yard for the fishermen. In addition to the regular interruptions of electricity network from the poor network.

Some of the key challenges faced in the area include poverty and limited job opportunities. These factors contribute to the suffering experienced by the local population. According to the fish associations in the landing site, the total number of registered fishermen is 955, operating a fleet of 600 boats that they use daily to land their catch.

From an economic point of view, the dominant species in the Yemeni waters and in coasts of Hadramout is the Yellowfin tuna. However, in terms of quantity, the sardines are the dominant species (at least in the Gulf of Aden eastern waters). Sharks (Lokham) are very important, but they require special attention. There are other marine products that are caught in the region, such as Kingfish (Dairak), Lethrinus (Gahsh) Tuna (Thamad), Shrimp (Gambari), Crabs (Saratan), Bagrus (Bayadh), Rock lobster (Shuruuk Sakhri), Parrotfish (Babagha), and others.

The fishing sector in Ar-Raydah depends on small-scale fisheries, also referred to as traditional or artisanal fisheries. Hadhramaut Sea fisheries production has increased to reach the peak point in 2014 which amounted about 217,896 tons According to the Central Statistical Organization, which pointed that is the highest level recorded in history of fisheries production. Since 2014, current observations indicate that Hadhramaut Sea fisheries production has decreased significantly compared to the highest production in the years preceding the war[11]. Uncertainty dominates the status of fish stock in the Arabian Sea and Gulf of Aden as there is no official records nor accurate statistics nor formal reports that detail volumes or specific species of production after 2014. Nonetheless, the observed status according to feedback from stakeholders in the sector note that catch production from the Yemeni national waters decreased dramatically. Due to conflict and institutional fragmentation, lack fish stock management and governance measures. According to Republican Decree Law No. (42) of 1991 Regulating the fishing, exploitation and protection of aquatic life, which authorizing the Ministry of Fisheries and its affiliated bodies to determine of fishing areas, the opening and closing of fishing seasons, also identify fishing gears that not due harm to aquatic life[12].

According to the social survey conducted by PWP social mobilized teams, 60% of the people in the targeted community are unemployed between the ages of 15- and 65 years old and 20% of the population is disabled people. Because of the high cost of fishing and its required equipment the migration reached 30%. The main income is fishing in the targeted area and the trade in the fish products. The women main daily works focus on fetching water, take care of the children, house duties, animals' husbandry. Additionally, some women work in the private sector as teachers, and nurses, which provide an important source of income and economic stability for families.

[11] https://sanaacenter.org/ar/publications-all/main-publications-ar/9509

[12] For more information see link: https://yemen-nic.info/db/laws_ye/detail.php?ID=11319

The targeted area has good fundamental basics of sustainable development goals. The education situation is good as there are eight educational institutions such as primary and secondary schools and learning centers of computer and language which located in the town center. A hospital and one medical center are also available in the area. Water network for drinking water reaches the houses of the areal-Raydah town. On the other hand, no sanitation infrastructure in the area and resident use cesspits system. Ar-Raydah 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. The monsoon affects Al Mahrah and Hadhramaut Sea from about June to early September. During these middle months every year, sufficient cold upwelling develops in near-shore waters of the Arabian Sea to hold sea surface temperatures in the low to mid-twenties Celsius, while high twenties prevail farther offshore[13].

Precipitation seasons in Hadhramaut are summer and autumn. Most rainfall periods consist of intense but brief showers followed by light rain. In general, the weather of the Southern Yemen coast and Gulf of Aden is hot and arid. Two monsoon 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-el-Mandab and the Red Sea, while during the summer, south-west (SW) monsoon prevails from June to September blowing winds towards the east, the landing beach at Al Raidah is often unusable due to wave action in this period . 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 and autumn seasons 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.

Hadhramaut governorate is characterized by mountainous to coastal area with wet hot climate. The targeted landing site is located in area, which is hot in summer and warm in winter. The historic temperature data stopping on 2013 Hadhramaut governorate varies according to the diversity of terrain. It reaches its maximum air temperature (35°C) in the coastal plains during the summer season, while the average temperature in the winter drops to (20°C). In the last months and because of climate change, the highest temperature record reached to 47°C which is the highest reached until now.

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

[13] https://en.wikipedia.org/wiki/Khareef

recent history[14]. Annual relative humidity in the area ranges from its maximum during summer (July-August) to its minimum during winter season.

3.2.2. Hydrology

Surface water: The surface of Hadhramaut governorate is distinguished by its multiple slopes that are in different directions. The slopes include many valleys, some of which are main valleys, and some are subsidiary valleys, most of which are important tributaries of the main valleys. As mentioned above, scarcity of rainfalls is dominant in the governorate, as it is exposed to rains in few months only. Therefore, water runoffs passing through the coastal plain of Hadhramaut toward the Arabian Sea experienced during rainy seasons and in small quantities. However, it sometimes could be devastating as what happened in 2008 when tropical storm caused a severe rain and flash flooding in Hadhramaut valleys with water surges reaching up to 18 m in some areas15. Destruction of this flash flooding reached the coastal area and damaged boats and fishing equipment of the fishing communities. This intervention takes in consideration that risk in design stage by strength structure elements and use durable materials to resist extreme storms.

Out of the several valleys that intercept Hadhramaut coastal plains, there are two wadis that are located to the east of the targeted landing site project. The first is about 1.2 km far to the east of the landing site, whereas the other one is 3 km far. Moreover, the proposed subproject will not change the runoff pattern nor blocking rainwater drainage channels, thus will not cause any impact on surrounding communities by flash floods.

Wells: There are also many wells in the area which are used as a main source of drinking water and are formed slowly from rain and flood water. The landing center depends on the well located in the center, which is salty and used for cleaning purposes. As for making ice, drinking, etc., there is a public water network extending from wells that are about 9 kilometers away, through a collection water to tank and from there distributing water by gravity to the internal networks and from there to the Al-Raydah town, while the potable water reaching to landing center from the same source but by water trucks, as a result of public network only covering the town, the subproject will not lead to a signficant increase in water usage due to activities, especially that the rehabilitation of the ice factory is not included at this stage.

3.2.3 Geology

The coastal zone of Hadhramaut governorate lies in the coastal plain which is a part of the tectonically formed Gulf of Aden coast. Two stratigraphic units of essentially alluvial deposits are distinguished. The first is a widespread Pleistocene conglomerate, and the second is heterogeneous Holocene clastic detritus deposited along the axes of valleys. Since the beginning of the Holocene, most wadis have generally been downcutting in response to geotectonic uplift, resulting in a reduction in thickness of the conglomerates. Today, they

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

[15] Breisinger, C.; Ecker, O.; Thiele, R. and Wiebelt, M. 2012. The Impact of the 2008 Hadramout Flash Flood in Yemen on Economic Performance and Nutrition: A Simulation Analysis; Kiel Working Paper, No. 1758, Kiel Institute for the World Economy (IFW), Kiel. http://hdl.handle.net /10419/55865.

are only preserved within the coastal plain as terraces and interfluves where they are compact, well-cemented and up to 20-30 m in thickness.
The targeted landing site lies on a sandy coastal shore (Figure 4). This coastal area is dominated with water currents that cause intensive sedimentation in the area. However, it is worth mentioning that the beach sediments could be changed in characteristics depending on the wave intensity and directions prevailed in the area throughout the year.

Figure3 Geological characteristics of the landing site shore.

3.2.4. Cultural Heritage

The district in which the sub-project is located does not have any archaeological sites. The subproject is located at a limited scope which is away from any heritage sites. 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

Air quality is closely linked to the earth's climate and ecosystems globally. The main source of air pollution is combustion of fossil fuels, which is also source of greenhouse gas emissions.

With respect to Ar-Raydah proposed landing site project, it is located in a remote area. In general, it is noticed that the air quality in the targeted landing site is fresh and clear and there is no relevant source of air pollution. However, air pollution is considered low in the location as it is far away from any industrial areas or congested transportation roads.

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 Hadhramaut governorate.

Typical existing noise levels in the landing site are generally limited due to absence of extensive human activities. The only noise source could be from the fishing boat engines during fishing activities.

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 is characterized with a lack of sand dune, or any freshwater dependent, vegetation. On the other hand, the intertidal zone is found to be sandy where no flora life was found during the field visit.

3.3.2. Fauna

Lack of vegetation cover and scarcity of water resources have limited the existence of terrestrial fauna in the targeted village. The submerged area below the low tide line, no coral reefs batches were found.

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 one of bird migratory routes nor as a bird sanctuary due to absence of wetlands or any other bird preferred habitats.

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 (Shaher, 2007)[16]. The most common commercial fishes available in Yemeni waters are tuna, Spanish mackerel, Sardines, Anchovies, Indian mackerel, Emperor, Snappers, Groupers, Barracudas, Carangoides, Sharks. There is no formal information about the status of these fish stocks due to lack to stock management and governance measures. However, pelagic species are overfished at Indian Ocean level and demersal species local to Al Raydah are overfished by uncontrolled levels of fishing and Sharks are overfished in the gulf of Aden .

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 Hadhramaut governorate[17]. No coral reefs nor habitats of sea grasses were reported in the nearby of the landing site coastal zone.

Nesting beaches along the southern coast of Yemen are considered to be some of the best remaining nesting ground in the world (EPA, 2009)[18]. However, no turtle nests were

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

[17] **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.

[18] Environmental Protection Authority report, 2009.

reported or sighted in the vicinity of the landing site. There are not threatened or endemic species present/reported in the sea zone of Al-Raydah landing site.

3.4 Existing situation:

Ar-Raydah is one of the most important landing sites in the Governorate of Hadhramaut. It was established in 2005 with area allocated by local authority of the landing site is approximately 45,000 m^2. It was 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. This landing site are serving about 955 fishermen, with 600 boats, however, due to the currently bad conditions of Ar-Raydah landing site, there is overcrowding in neighbouring landing sites.

The PWP technical team has visited Ar-Raydah site during the course of preparation of this report. In general, the site is suffering from inadequate levels of hygiene due to lack of sanitary wastewater collection infrastructure. The present condition of landing site construction is in a bad shape as climatic harsh condition has deteriorated it and have to be rehabilitated. Local fishermen suffer from the deterioration of their fish and marketing failure because of the ice factory is currently not working because the refrigerator has corroded and also because there is no source of fresh water available at the center see figure 5.

Incomplete auction yard

Deteriorated petrol pump for refueling fishing boats

Figure 4 Existing situation of Ar-Raydah landing site.

3.5. Targeted Beneficiaries

The selection of the community beneficiaries is based on transparent eligibility criteria and consultations with communities and local leaders. Before implementation and during the participatory consultations with local communities to define the interventions, PWP's teams confirm the priority of the need between the society and ensure that the intervention is in its suitable place.

The PWP social team has visited the proposed project at Ar-Raydah city, which is located 190 km far from Al-Mukalla City: the capital of Hadhramaut Governorate. The main objective is to assess the situation and prioritize the needs for Ar-Raydah Ash-Sharqiah region. The team introduced local people and local administration to the 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 2022 projections that based on 2004 Census, Ar-Raydah city has total population of about 12,488. The table below shows the total number of beneficiaries segregated by gender:

Table 3 Total number of beneficiaries segregated by gender.

Subproject -ID	Project name	Benefited Neighborhoods	Beneficiaries			Fisher men	Fisher women
			Male	Female	Total		
07-9-16079	Rehabilitation and Development of Ar-Raydah Fish Landing Site	1	6,619	5,869	12,488	955	0

Before the sub-project 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, 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 informs the beneficiaries present about the importance of the sub-project maintenance to ensure the sustainability of the intervention .

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.

4. Environmental and Social Impact Analysis

4.1. Applicability

The World Bank Environmental and Social Framework (ESF) is applied to manage the potential environmental and social risks and impacts of the subproject, which are considered to be moderate. This may include residual wastes and occupational health and safety (OHS), etc.

4.2. Eligibility

This subproject is eligible for support as per the PWP Environmental and Social Responsiveness (ESR) Criteria (Annex 3).

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 site visits 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 area. This would include providing job opportunities during implementation for workers from local communities and will generate positive impacts on the economy in the targeted area. Potential positive and negative impacts of the subproject are going to be described in the next sections.

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.

4.4.1. Potential Environmental Impacts during Construction Phase

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 the construction operation 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.

4.4.1.3. Solid and liquid Waste Generation

Civil engineering works would generate solid and liquid wastes from the construction sites. Earth and rubbles from site preparation, excavations, foundations, drained oils from engines, *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 offices, rooms, 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, embankment 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. 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.

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, gas station and 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. Please see the mitigation measures in section 6.1.

4.4.2.2. Overconsumption of water resources

The landing center relies on a centrally located manual well that produces brackish water, used primarily for cleaning and washing purposes. For potable drinking water, there is a public water network that extends from a well field servicing Al Raydah town, which is about 9 kilometers away. This potable water reaches the landing center through water trucks, making it a particularly valuable resource.

The landing site relies on salty and brackish water from the manual well for most activities, such as cleaning and washing, thereby reserving potable water strictly for human consumption.

4.4.2.3. Solid Waste Disposal

The 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.

4.4.2.4. 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. Measures to implement fisheries management and stock preservation are part of other components of the wider SFISH project, and they will cover the governate of Hadramout among others. The

rehabilitated landing site will be a platform to implement measures from the fisheries management plans.

4.4.2.5. Air Emissions from organic waste

Odour 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.

4.4.2.1 Lack of maintenance

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

4.4.2.2 *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.

4.5. Potential Socio-economic Impacts

As the proposed subproject will enable the fishery communities to safely load and unload their catches, the socio-economic impacts of the proposed landing site project will be overall positive in terms of their contributions to development, poverty alleviation and the creation of economic opportunities, particularly in the coastal communities.

4.5.1. Socio-economic Impacts during Construction Phase

4.5.1.1. Positive Impacts

Temporary employment opportunities will very likely available for many local individuals particularly to casual workers. Employment opportunities are a benefit both in economic and social sense. Several workers including casual labourers, carpenters, electricians, plumbers, *etc.* are expected to work in the landing site for a period that the project will start to the end. Also, semi-skilled and unskilled labour and formal employees are also expected to obtain gainful employment during the period of construction. The project is expected to create employment opportunities to the local people, who suffer from unemployment condition, and hence improve their living standards.

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

4.5.1.2. Negative Impacts

The major impacts that could be faced during rehabilitation and construction works of the landing site could be considered reversible and temporary if managed properly. Those negative impacts could be:

4.5.1.2.1. Increased Traffic

During 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 will increase the chances of traffic accidents within the community.

4.5.1.2.2. Land Acquisition

The intervention will be implemented in the same land of the existing location, which is owned by the Ministry of Fish Wealth in Hadhramaut Governorate as outlined in the document provided in the Annex 4. Therefore, there will not be any land acquisition, nor physical and/or economic displacement either permanent or temporary that could affect the rehabilitation and reconstruction works.

The Public Works Project (PWP) has further formalized its commitment to implement this sub-project by securing a social agreement with the targeted community and local authority, 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 subprojects 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). To review the signatures and stamps of parties with targeted communities and local authorities to implement this subproject, as detailed in Annex 4 of the same document.

4.5.1.2.3. Economic impact on fisheries and Recourses and Service' Access Restrictions

During the rehabilitation phase there might be some minor temporary restriction on the use of the landing site, which will be addressed to avoid loss of income to fisheries during that period. This will be mitigated by implement rehabilitation works during low fishing seasons (autumn and winter) because of high winds season,

In collaboration with the Fish Association in the landing site, the works will be implemented in successive phases to guarantee the non-restriction on the daily work of the fisheries activity and to avoid the complete closure of the centre. In this regard, the fisher associations has agreed with the PWP consultant to use the old Ar-Raydah association's auction hall until the contractor implemented phase one of the new auction hall, see annex 1 places No. (b and f) in the site plan and annex 4 (the agreement between PWP and Ar-Raydah association).

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. Transmission of STD and other infectious diseases

4.5.1.2.5. 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 associated with the project construction activities. 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 made available on site.

Protection of staff on the construction sites should be supported immediately once the work started. Poor protection for the staff could cause discomfort, and nuisances by noise, dust and emitted gases, does not only lead to deterioration of their health, but also contributing to accidents at work. Lack of training on the use of hand-held tools and providing staff with protective equipment may lead to unfortunate calamities. Some of the OHS risk on the site such as:

Risks of drowning, breathing problems from dust emissions from excavation and levelling work, handling chemicals (cement, 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, injuries while performing construction work using tools and machines, and electrical shocks while performing electrical works, falling from height, falling in excavated areas, accident risks while transporting equipment and machines, falling loads on workers, and vehicles running into workers (pipeline area).

4.5.2. Socio-economic Impacts during Operational Phase

Generally, the project is expected to produce significant environmental benefits in terms of resource conservation, pollution reduction, and improvement of public health. The project will accommodate more fishermen than before, improve their daily income, and ensure the continuous maintenance and repair of their boats. Additionally, the project will enable them to store their products for longer periods. The community will benefit from healthier food options from the fish bought, and a healthier environment around them will be created. Improvements will help the center administration in raising the work standards and allow for more a controlled supervision and monitoring process for the catch.

4.5.2.1. Job Opportunities

The project is expected to create new job opportunities and solve 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 fishermen communities with required facilities that help them in increase their fish quality such as ice storage and clean water network. This will raise their economic income and improve their economic and livelihood situation.

4.5.2.2. Occupational Health and Safety Issues

Health and safety of fishermen and other staff 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. 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. This is inevitable when unhygienic conditions and poor sanitation are prevailed. Furthermore, risk from drowning and fishing during bad weather and sea storms seasons. Fire risks from generators may also be present.

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. "The other part of SFISH fund that will be conducted by SMEPs".

4.5.3. Gender and Social Related Issues

Males and females were consulted and participated in developing and designing the subprojects to ensure responding to the needs of all community groups including men, women, and disabled people. More information in section 9.1 public consultation. 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.

4.5.3.1 Child Labour/Forced Labor

Families push their children to work due to the need for money. According to project ESMF and LMP no child labour/forced labour will be hired for these activities at all work sites. The minimum accepted age is 18 years old, and verification of age will be done before starting the work by checking IDs and other available documents before the commencement of any work. A labour log will be kept, and all workers will be registered, according to contract conditions the contractors and workers should be aware of and sign the code of conduct that states that child labour is not allowed.

4.5.3.2. Gender Equity

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 subprojects implementation.

The landing site project is located in Ar-Raydah city, which is part of Ar-Raydah wa Qusayar District that has, according to latest projection, a total population of 12,488, out of which 6,619 are males 5,869 are females. The number of beneficiary families are approximately 2100 families. The total number of fishermen who are benefited from the landing site are 955 individuals. Educational situation of females is worse, in addition to, the middle and young generations. Women in the city work on housekeeping and animal husbandry.

PWP has successfully established community committee (7 members throughout 5 males and 2 females) in the targeted area, by designating social consultants' teams (1male and 1female). Focused group discussions were conducted with the participation of both women and men within the elected community committee. The elected community committee will participate in the decision-making, need assessment, and public consultation. Also, they will participate in the monitoring of implementation, receiving the subproject, as well as subproject 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 which will able women to take roles in community committee based on knowledge.

4.5.3.3. Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH)[19]

Due to potential risk of gender discrimination and incidents of SH/SEA, PWP raised the awareness of community members, both men, women, and persons with disabilities regarding Sexual Exploitation and Abuse (SEA)/Sexual Harassment during the public consultation process as well as raising community awareness on Grievance Mechanism (GM) processes and how it can be used to gender discrimination and incidents of SH/SEA. Such incidents shall be treated with the highest level of confidentiality and anonymity of complaints, in a survivor-centered process. Mandatory awareness training and 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 throughout the project lifecycle. This also includes informing workers about the national laws that make sexual harassment, abuse, and gender-based violence a serious and punishable offense.

4.5.4. Conflict Sensitivity and Do No Harm

PWP has its conflict sensitivity manual to manage any conflict cases during the project's 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 provide their consent, acceptance, and satisfaction for the chosen interventions. No concerns were raised by the communities

[19] 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

against the subprojects. 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's cycle. Generally, the subproject will help to build the resilience of the communities and improve their live condition positively.

5. Environmental and Social Impact Analysis Plan and Mitigation Measures

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

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

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

5.1. Environmental and Social Risk Management Plan[20]

Table 4 Environmental and Social Risk Management Plan

Sup-Project phase	Potential Impact Factor	Mitigation Measure	Personnel / Institution Responsible For Execution[21]	Estimated Cost/ SP
Social and community Impacts				
Implementation	Child Labor: families push their children to work due to the need for money	• Ensure child labor is not permitted; all workers will be verified to be over 18 years of age. • Verifying age by checking IDs and other available documents. • Ensure a Labor 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 UNOPS 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.	•Resident Engineer •PWP Safeguard Officer •Community Committee •Contractor	N. A

[20] All the ES mitigation measures are obtained based on WB ESF and WB EHS sector-based guidelines.

[21] During Construction Phase, the contractor is responsible for implementing the mitigation measures. PWP field staff/ resident engineer is responsible, monitoring and reporting on ensuring mitigation measures are implemented. During O&M phases, the Local councils and the Beneficiary Committees are responsible for O&M.

Implementation	Sexual harassment, sexual exploitation and abuse.	• 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 for which they can be 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
	Discrimination against women and persons with disabilities in the decision -making process and project benefits	• PWP adopts a non-discrimination policy that ensures a non-discriminatory and inclusive manner, including women and persons with disabilities when selecting sub-project. 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 Sub-area Staff •Community Committee •Gender Focal Point[22]	N.A

[22] 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 gender and 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.

	Lack of workers' awareness and knowledge on respecting local community cultures, and social safeguard issues on Gender, SEA/SH.	• Implement a systematic awareness campaign to increase workers' awareness of local community tradition and cultures and the need to respect them. • Contractor and his/her 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 issues 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 sub-project is provided for free, and they should not pay anyone to get benefits from the sub-project. • Prepare and publicize in the community a transparent recruitment procedure. • 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.	•PWP •Community Committee	N.A
	Social conflict due to poor labor management and lack of transparent	• Coordination with the community council regarding the employment of skilled and unskilled workers from	• Safeguard Officer • GM officer	N.A

Implementation	and non-discriminatory recruitment procedures.	the community benefiting from the subproject as a priority and in a transparent manner. In the event that skilled workers are not available, they can be provided 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.		
	No latrines near the project site and workers may have to practice open defecation.	• Providing temporary latrines or constructing well-insulated temporary latrines, hand-washing basins, and supplying them with water23. Or finish the existing buildings such as guard's rooms and toilets to be used for workers. • 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. • Managing and supplying water and soap in the latrine daily. • Ensure latrine areas are properly insulated and waste is managed and removed regularly.	Contractor •Resident Engineer	$700 for the sub-project

[23] Constructing temporary latrines, away from any water source, and social disputes, according to the pour flush toilet with water seal, connected directly by pipe to single close cesspit to disposal of a human faeces, and waste, with ventilation pipe, which will be built from bricks in proper height with steel sheet cover, and water tank 1 m3 as drawings attached with tender documents, this system complete isolation of waste and getting rid of insects and odors and provide privacy through good housekeeping practices. and will provide privacy. After the project is completed, the latrine will be demolished with the transport and disposal of its construction waste in the approved landfill and the cesspit will be buried well. The cesspit will be properly covered.

		• Ensure proper disposal of sewage by in isolated and cover . • Always ensure a proper Cover for cesspits is added and ensure they are backfilled by the end of the subproject		
	No skilled workers in the targeted areas for construction works.	• Skilled workers will be hired from neighboring areas if not available from targeted area. • Provide decent accommodation in minimum space 4 m2 per worker.	•Contractor •Resident Engineer	N. A
	Temporary restriction on the use of the landing site	• This will be mitigated by implementing rehabilitation works during offstopped fishing seasons (autumn and winter), as well as work activities will be implemented section by section in coordination with fisheries associations and community committees. • Temporary using Ar-Raydah association's auction hall until contractor construct new one.	• Community Committee • Contractor • Resident Engineer	N. A
	Public Health includes risks of public and children's access to the worksite Transmission of STD and other infectious diseases	• Install fences, barriers, dangerous warning/prohibition sites around the construction area which show potential danger to public people. • Place appropriate warning and directional signs at areas where construction is taking place. • Erect removable barriers. • Limit in coordination with traffic authorities the movement of heavy vehicles on roads/lanes used by the public during traffic peak hours.	•Community Committee •Contractor •Resident Engineer	N. A

		• 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. • Awareness programs should focus on providing the trainee with knowledge that illustrate transmission of STD and other infectious diseases and its impact on health and economy. • Raise awareness on good hygienic practices.		
	Community dissatisfaction by 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	NA
	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	NA

	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
Environmental Impacts				
Implementation	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 dust24. • 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.	•Contractor	N. A

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

Implementation		• 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.		
	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. • 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.	•Contractor	N. A
	Soil contamination from accidental oil spills and from liquid waste	• Properly store all types of waste and hazardous chemicals if any in insulated 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).	•Contractor •Resident Engineer	N. A

		• Ensure oil change, machine maintenance or mixing cement is done at designated insulated areas on concrete bases 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 rainy seasons, and dust storms.
		• 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.
		• 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
		•		

	Solid waste produced by workers (trash and plastic bags) accumulates and pollutes the environment Stones waste accumulation and soil excavation	• Ensure that workers regularly collect all solid trash in enclosed bags stored 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.	• Community Committee • Contractor • Resident Engineer	N. A

		• 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. • Properly covering trucks that transport collected waste to avoid spillage during transportation. • Attach the waste receipt from the relevant landfill authorities. • The Contractor's staff should be trained in waste handling. •		
	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 containers, etc.) are properly stored and insulated away from drainage areas and runoffs, managed and disposed of safely and legally by certified contractors. • Ensure the presence of spill prevention kits and remove any spills immediate. • Ensure workers do not spend long exposure times to chemicals. • Ensure hazardous wastes and materials are handled by trained workers.	• Contractor • Resident Engineer	N. A

	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 the used oil from the generator, which can be sold and reused in cement factories. • 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 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 agency (EPA). • Carry the construction work outside of biodiversity sensitive seasons (fish spawning seasons etc.) This could be done in collaboration with the environmental protection agency (EPA).	• Community committee, • Local Authority • Fish Association • Contractor • EPA	N. A
	Operation and maintenance			

Operational and maintenance phase	Liquid discharge to sea water	• Establish a liquid waste management plan form all the landing site components and ensure perfect reflection in the intervention designs like for the auction hall, 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 to for 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 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.	• Community committee, • Local Authority • Fish Association	N. A

		• Handing the sub-project to the respective local authorities. • Sign an agreement with local authorities on the maintenance requirements. • Ensure regular maintenance of of project components and septic tanks.		
	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
	• 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	• Community committee, • Local Authority • Fish Association	N. A

		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 and waste disposal requirements. • Ensure regular maintenance of fish landing. • Disposing regularly of the organic waste in accordance with agreement with local authorities.		
	• Biodiversity Conservation and the depletion of 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). • 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. • Raising awareness of fishermen about the importance of marine habitats and measures used for conservation of marine species including the negative impacts of overfishing. • Encourage the use of mooring anchorage instead of traditional anchors. • • 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	• GAF • Community committee, • Local Authority • Fish Association	N. A

		done in collaboration with the environmental protection agency (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 agency (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 Agency (EPA). • Individual quotas for fishermen depending on catch limitations in coordination with EPA. • In the broader context, the UNDP is engaged in other major sub components 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.		
	• Lack of maintenance	• The 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.	• GAF • Local Authority • Fish Association • Community committee.	N. A

		• Regular maintenance and inspection should be carried out.		
	• High energy usage	• 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. • 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.	• GAF • Local Authority • Fish Association • Community committee.	N. A
	• High use of water	• Using 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 ongoing monitoring for water quality to ensure it is safe to use • Monitor changes in water quality • Raise awareness staff on ways to conserve water	• GAF • Community committee, • Local Authority • Fish Association	NA

5.2. The Occupational, Health, and Safety Management Plan

Table 5 Occupational, Health, and Safety Management Plan

Tasks 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's implementation by PWP. This includes (hazards associated with the activities., how to use tools properly mitigation measures, and workers' responsibility as well as the 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 the special procedures 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)[25] 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.								• Contractor • Resident Engineer • Workers	provide safety equipment for workers 25,000$

[25] 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.

	• (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 center, 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. • Ensure effective monitoring to the worksites including inspections and spot checks to ascertain compliance with OHS measures. • Conduct regular inspections for any unsafe acts, near misses, or accidents. • Discover the root causes of any non-compliance cases or/and accidents occurring and suggest the corrective actions to avoid reoccurring. • Provide training on handling, storing and disposing cement and any type of chemicals. • Ensure no work is conducted during bad weather conditions (i.e., sand storm, dust storm, rainy seasons etc.) • In case ladders are used, inspect their stability prior standing on them. • In case scaffold are used, inspect their stability and well insulted by competent person prior to using it. • 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. • Workers have the option to remove themselves from unsafe working conditions without any reprisals. • • Provide life and health insurance to all project workers. • Allows regular breaks and provide drinking water for workers. • Report major accidents to the WBG within 48 hours by UNDP.		

Excavation 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**.** • 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 and the like. • Exhaustion and injuries from excavation activities		**X**		• 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 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 the designated landfills right away**.** • Safety gloves, dust masks, protective helmets, protective boots and all necessary PPE to mitigate the risks of conducting the activity are to be used			**X**	• Contractor / Resident Engineer / Workers	Part of PPEs cost first item

					by workers at all times on-site. • Deposit soil extracted 0.80 meter away from the edges. • Allow for regular breaks and provide water. • Workers have the option to remove themselves from unsafe working conditions without any reprisals. • Limit the time for workers working on vibrating tools. • Add warning signs and barriers around excavated zones •					
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.		**X**		• Use of professional labor force to implement activities that are obligatory while mixing and pouring concrete. • Use safety gloves while loading, transporting, and distributing stones while building. • Long, rubber safety boots, goggles and gloves shall be worn while mixing concrete. • Ensure concrete mixture equipment is in good condition. • Workers to be aware of concrete mixture equipment risk and keep a safe distance during its movement and rotation.			**X**	• Contractor/ Resident Engineer	Part of PPEs cost first item

					• Locate the cement mixer equipment on firm-level ground to avoid collapse during operation and locate it away from traffic. • Provide suitable gloves and masks					
Construction of rooms walls, plastering, painting, and floor pouring and tiling.	• Falling from height. • Injury or severe fractures caused by falling. • Blisters on the hands due to direct contact with cement. • Chemical inhalation. • Injury of the worker's head or construction while transporting stones. • Foot injuries while mixing concrete. • Eye Injuries while applying plastering scratch or base coat. • Injuries of the shoulders and back muscles because of lifting the wrong way or lifting heavy load for long, far distances between the worker and construction.		**X**		• Ensure that the stairs or scaffolding are stable and set up on the leveled 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 shuttering works and scaffolds supported by the supervising engineer. • Inspect ladders before usage. • Wear fall protection devices and helmets. • Use a safety harness working at height. • Use safety gloves while loading, transporting, and distributing stones. • Long, rubber safety boots shall be worn while mixing 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.			**X**	• Contractor/ Resident Engineer	Part of PPEs cost first item

	• Injuries in hands and feet due to using of hand tools like hammers, and chisels. • Misuse of equipment during plumbing work.									
Installation of pipes lines and plumbing works	• Risk due to excavation works for pipes lines. • Injuries during the pipe's connection works. • Misuse of equipment during plumping work. • Traffic Accidents. • Vehicles running into workers (pipeline area).		**X**		• Hire skilled labor 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	Part of PPEs cost first item
Demolition work on the existing walls	• Serious accidents/injuries due to demolition works. • Working on heights. • The collapse of demolition works on workers.	**X**			• Safely remove the damaged parts. • Avoid using ladders during demolition works. • Inspect ladders before usage. • Wear fall protection devices and helmets. • Ensure workers are not working			**x**	• Contractor / Resident Engineer /Workers	Part of PPEs cost first item

	• Workers' ignorance of safety hazards at the worksite. • Using ladders while Demolition. • Using the wrong equipment for the wrong purposes.				during environmentally risky periods (sand storms, rainy periods etc.). • Workers must keep a safe distance from demolition area					
Working at heights	• Injury/death – inadequate ladder; inadequate use of ladder; failure to wear fall arrest gears; inadequate scaffold erection; inadequate safe work procedure	**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 ladders before usage. • Wear fall protection devices and helmets. • Daily check for scaffolding before starting the work at heights to ensure the working platforms with guardrails, 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			**X**	• Contractor / Resident Engineer /Workers	Part of PPEs cost first item.

					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. • 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 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 welding or cutting if any. • 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.			**X**	• Contractor / Resident Engineer /Workers	Part of PPEs cost first item

					• Ensure adequate storage and labeling 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. • 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.					

Work in closed or confined spaces (Septic Tank)	• Injuries due to lack of oxygen or toxic gases. • Variation in temperature (cold, hot). • Trapping risks inside these places.		**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. • 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 labor to implement these activities.			**X**	• Contractor/ Resident Engineer	Part of PPEs cost first item

					• A suitable lighting shall be provided inside the confined areas during work hours. • 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.					
Reinforcement Concrete works include reinforcement steel bars installation and concrete pouring (columns, beams, slabs),	• Workers fall from height (more than two-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		**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 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			**X**	• Contractor/ Resident Engineer	Part of PPEs first item

	from high surfaces on the workers or pedestrians may cause death or serious injuries. • Collapsing of working scaffolding, platforms, concrete formwork on the workers or pedestrians may cause death or serious injuries. • injuries due using of cutting equipment. • Injuries in hands and feet due to using of hand tools like hammers, and chisels.				ensure there is sufficient bracing into scaffolds. • 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 leveled 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.					
Implement and install electrical works.	• Injuries during electrical foundation works. • Injuries from electrical shocks. • Injuries because of stumbling by random power wires.	**X**			• Identify buried electrical cable prior the activity. • Hire skilled labour to implement these activities. • Issuance of work permits by the resident supervising engineer to carry out the work. • Ensure adhering to electricity resistant PPEs. • Do not work during wet seasons.			**X**	• Contractor • Resident Engineer • Workers	Part of PPEs first item
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	**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			**X**	• Contractor/ Resident Engineer /Workers	Part of PPEs first item

	of improper fixation or strong wind, unsafe loads, loads exceeding the safe weight limits, trapping/crushing risk while working at height, falling from height. • 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 poor visibility.				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. • An ultimate load shall be ≥ 4 times the maximum static load. • 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. • Maintain a buffer area/safe distance between workers and lifting areaEnsure a proper buffer distance between workers and lifting areas is kept.					

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.		**X**		• Avoid the need for unnecessary manual handling as possible when suitable equipment is present. • Reduce the load risk by using lighter weights or more stable containers. • Reorganize the activity to further reduce the impact on the individual(s). • Utilize mechanical lifting aids or equipment as appropriate. • Ensure appropriate rest breaks, job rotation, and training are involved. • Raise awareness to workers on safe lifting techniques to avoid back injuries. • Provide personal protective equipment (e.g., gloves, foot protection, and non-slip footwear). • Ensure trained workers are dealing with cement and wearing proper PPEs including gloves, googles and masks. • Provide training for workers on handling and storing any hazardous substances and materials if any.			**X**	• Contractor • Resident Engineer • Workers	Part of PPEs first item
Transfer of equipment and workers	• Road accidents from bad driving.		**X**		• Ensure drivers are aware of good driving practices such as wearing seat belts and maintaining speed limit.			X	• Contractor • Resident Engineer • Workers	Part of PPEs first item

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 6 hours of work per day are allowed during Ramadan as per the legislation and LMP. • Work hours are limited to the approved 6 hours per day that can be done in one shift at night or divided into two shifts (day and night times) 3 hours each for each shift. • 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.			**X**	• Resident technical Engineer/ • Consultant Engineer/ • Contractor	Part of PPEs first item

					• 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 household interventions when possible. • Raise awareness towards Gender, SEA/SH					
Operation Phase										
Working in unhealthy areas	• 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**		• 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 and maintaining proper hygiene and PPEs. • Other programs could also help fishermen to acquire and build necessary skills and good practices to raise quality and reduce manifestations of fish spoilage			**X**	• Contractor • Resident Engineer • Workers	Part of PPEs first item

	• 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				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 •					

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 subprojects
2. A financial capability that ensures the subprojects will be executed and completed as per agreed terms and conditions.
3. Provision of health and life insurance policies for the workers as a condition of signing the contracts.
4. The OHS tools should be provided with acceptable quality according to the BOQ with conducting training for 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 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 in the contract.

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 contracted community workers if any) involved in the works.
   - 1.2 Provide protective masks, helmets, overalls and safety shoes, and 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 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 met the requirements of the national law and the ESF.
   The estimated / planned number of labors for rehabilitation and enhance Ar-Raydah Landing Site is **109** (33%) skilled and **218** (67%) unskilled labor which will be working according to implementing activity during the project life in which the expected life project contracts will be twelve months, 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, they should be equivalent to the wages paid in the specific location. PWP field staff shall monitor and ensure the contractor pays all workers males and females 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 work.

   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 include special works that require skilled labors, these tasks may undertake 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 of 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 the site to protect workers from hazards and risks and provide adequate health and safety training[26], required PPE, first aid box, 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.

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

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

2.11 Addressing worker grievances: Contactors shall provide the worksite with a GM system for all workers (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 grievances in a 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.

3. 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).
4. Conduct work section by section and keep enough access to spaces for fishermen for the remaining functioned parts of the landing site.
5. 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.
6. Apply a safety work permit system for all working activities at the site to ensure full implementation of ESMP and OHS requirements.
7. 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.
8. 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.).
9. 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.
10. All necessary PPEs gears required for the job are distributed to each worker who will be participating in the implementation.
11. Provision of water for these bathrooms and or trenches with covers and obliging all workers and supervisors to use them.
12. Separate the material and store them accordingly and provide enough space for movement and maneuvering.
13. 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.
14. 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.
15. Commit to storing hazardous materials away from workers and not to change oils or leave grease residue in the work area.
16. Commit to the repair of public services (electricity, telephone, water, sewage) that are broken during the implementation of the project.

17. Report immediately severe 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.
18. 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.
19. 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.
20. Contractors must address the risk of gender-based violence, through:
    Mandatory and repeated training and awareness-raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women through measures that includes but are not limited to the following:

    - Informing workers about national laws that make sexual harassment and gender-based violence a punishable offense that is prosecuted.

    - Introducing a Worker Code of Conduct as part of the employment contract, and including sanctions for non-compliance (*e.g.*, termination)
    - Adopting a policy to cooperate with law enforcement agencies in investigating complaints about gender-based violence.

21. Contractors must not employ workers below the age of 18 and must ensure verification of documents is conducted before hiring.
22. Provide proof of insurance for all laborers, including the third party, before the implementation of the project.
23. Commit to not use any type of explosive materials for the extraction of stones required for the project or any relevant works.
24. 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.
25. Traffic Safety Measures: The Contractors shall provide, erect, and maintain such traffic signs, road markings, barriers, 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.
26. 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.

27. 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.
28. Working in rainy seasons is not allowed where there is a risk of flooding, endangering workers or equipment.

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 fully comply with 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 termination of 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 black list, and Warranty confiscation.
- For minor infringements and social complaints: if an incident occurs, that 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:

- Training of workers: PWP staff and Contactors shall provide the workers with required training and daily toolbox talk in the OHS, SEA, GM, and as mentioned in the Environmental and Social Impact Analysis Plan and Mitigation Measures above.
- 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 resident technician, biweekly by the OHS/SES staff at the branches as well as monthly visits by PWP subareas manager and UNDP scheduled or impromptu field monitoring visits and audits. 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.

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

Table 6 Environmental and Social Monitoring Plan

Action	Monitoring methodologies and Indicators	Responsible[27]	Timeframe
Community Health and safety (Social impact)			
Contractor 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 the Code of Conduct (CoC). • The number of complaints received.	• PWP Safeguard • Contractor • Resident Engineer • Gender Focal Point	• Before the commencement of work • biweekly
Knowledge of the local community, the community committee, and workers about the GM, as well as the contact numbers.	**Methodology:** • Provide a complaint box, awareness-raising, Signboard with GM contact details in place and brochures distributed. **Indicator:** • The number of awareness-raising. • Presence of sign board with GM contact details. • The number of complaints.	• Sub-area Staff • Resident Engineer	• Within one week before commencement of work • Bi-weekly

[27] 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.

Regular awareness sessions to community members, the community committee, and workers about the use of GM.	**Methodology:** • Awareness records. **Indicator:** • Number of awareness session.	• Resident Engineer	• At the onset of subproject • Regularly
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
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.	• Contractor • Resident Engineer • Community Committee	• Daily
Involvement of the community in the monitoring of the implementation of the sub-project and reporting 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 • Sub-area Staff • Resident Engineer	• Daily
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 during consultations versus men. • Number of women and men in community committees. • Number of GM complaints regarding discrimination and solved complaints. • Number of consultations with exclusively women groups.	• Gender Focal Point • Sub-area staff • Resident Engineer • Safeguard Specialist • Community Committee	• Before the 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 issues and GM cases related to SEA/SH are well treated and mitigated quickly.	**Methodology**: • Provide GM system. **Indicator**: • Number of recorded grievances. • Number of resolved complaints.	• Gender Focal Point • Safeguard Specialist • GM Specialist • Resident Engineer	• Weekly
Ensuring awareness is raised regarding Sexual Exploitation and Abuse and Sexual Harassment SH among all the community. Ensure laws are known for any violations.	**Methodology**: • Use of Photos • Provide an awareness session about punishing violations. **Indicators**: • Number of awareness sessions. • Number of SEA/SH cases.	• Gender Focal Point • Resident Engineer • Community Committee	• Monthly
Environmental Impacts			
Soil contamination from accidental oil spills and from liquid waste.	**Methodology**: • Visual inspection and photographs. **Indicator**: • Change in soil color. • Presence of waste outside designated zones. • Number of complaints from locals. • Number of spill events.	• 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. **Indicators**: • 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 grievances related to waste mismanagement.	• Resident Engineer	• Daily
air pollution, gas emissions, noise, waste, and traffic management.	**Methodology**: • Complaints records. • Visual inspection.	• Resident Engineer	• Daily

	Indicators: • The presence of fumes /dust observed. • Number of society complaints on the air quality, noise level or waste at work site.		
Hazardous materials and wastes storage.	**Methodology**: • Visual and photographic and waste receipt inspection **Indicator**: • Number of times hazardous materials and waste were recorded outside designated zones. • Visible soil leak. Presence of waste receipt Presence of proper label on materials	• Resident Engineer • Contractor	• Daily
Ensure not to work in flood (rainy) season or during water stagnation.	**Methodology**: • Knowledge of the rainy seasons. • Monitor the weather in the area. **Indicators**: • Number of accidents. • Number of flooding events.	• Resident Engineer • Contractor • Community committee	• During rainy season
Biodiversity risks.	**Methodology**: • Inspection/site visits **Indicator**: • Significant change in species structure and composition. • Presence of dead animals. • Number of spill events.	• Resident Engineer • Contractor • Community committee • EPA	• Monthly
Operation and Maintenance			
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 seaweed cover. • Presence of fishermen during spawning seasons.	• Fish Association • Local Council • EPA and fish authority	• Monthly

	• Number of spill events. • Presence of mooring buoys instead of traditional anchors. • Number of awareness sessions provided to fishermen.		
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 Number of awareness sessions related to water conservation measures provided to local communities	• Community Committee • Local Authority	• Monthly
High energy usage	**Methodology:** • Visual inspections. • Use energy efficient appliances • 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
Occupational health and safety			
Adherence of contractor to permit to work system for activities as identified by the risk assessment[28] and ensuring all safety measures for the task are in place.	**Methodology**: • Issuance of the permit to work. **Indicators**: • Number of issued permits of work and safety measures with the type of work. • Number of incidents/ accidents recorded and type.	• Contractor • Resident Engineer • PWP safeguard	• Daily as required
All OHS requirements for the sub-project are identified and available in the workplace.	**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
Workers aware of the safety requirements are conducted.	**Methodology**: • Awareness sessions records.	• Resident Engineer	• Weekly

[28] Risk assessment should be undertaken once in the project cycle and when its required as when we have new activities in the subprojects or when a severe accident happens, in which the risks and their mitigation measures should be attached with sub-project documents.

	• Visual observation and photographic documentation. **Indicator**: • Number of awareness sessions for workers. • Number of injuries.		
Occupational Health and Safety Hazards	**Methodology**: • 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	• Daily
Workers' satisfaction	**Methodology**: • Workers' grievances system. **Indicators**: • Number of workers' grievances and type. • Number of resolved grievances.	• Contractor • Resident Engineer	• Weekly
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 the first aid. • Photo for the first aid box on site.	• Contractor • Resident Engineer • Safeguard Specialist	• From the beginning of the implementation
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**.**	• Sub-area Staff • Resident Engineer	• Daily
Severe accidents and incidents are reported to head office within 24 hours and communicated to UNOPS and within 48 hours to the WBG.	**Methodology**: • Accident and injuries report 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 UNOPS and within 48 hours to the SBG versus the number of	• Safeguard specialist. • Resident Engineer	• within 48 hours

	reported accidents after 24 hours to UNOPS and after 48 hours to WBG.		
Ensure all activities that require specific skills are done by skilled workers.	**Methodology**: • Labor data with skill level. **Indicator**: • Number of skilled workers, and type of work**.**	• Resident Engineer	• Daily
Tools and equipment are to be regularly maintained and inspected to ensure they are of acceptable quality and in good working condition for the required activity.	**Methodology**: • Periodic inspection of tools and equipment **Indicator:** • Results of the periodic report. • Number of maintenances performed on tools.	• Resident Engineer	• Monthly
All construction works are to be conducted during daylight and when required night works are allowed.	**Methodology**: • Using GM system. **Indicator**: • Number of GM complaints and number of resolved complaints. • Presence and number of workers on site.	• Resident Engineer • Community Committee	• Daily
Operational phase monitoring			
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. **Indicator:** • Visible deterioration detected. • Number of complaints regarding health issues. • Number of trainings provided regarding OHS, environmental and social topics.	• Fish Association • Fish Authority • community committee	• every three months
Risks from overfishing and on fish stocks	• Methodology:	• Community Committee	• Annually

	• Issue numbered permits aligned to quotas/limitations • Monitor gear used and catch quantity • Indicator: • No. of permits issued vs total fishing capacity. • Number of boats versus carrying capacity on site • Presencce of boats during prohibited fishing seasons or sensitive fish seasons • Percentage decrease in fish stock • Number of noncompliances including noncompliances in fishing gear • Catch data vs quotas/seasonal restrictions	Local Authority	

8. Public Consultation

Meetings with different stakeholders in Ar-Raydah wa Qusayar district have been conducted, including meetings with governmental departments, fisheries association, local authorities, 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 (Figure 6). 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 negative or positive, have been discussed with different stakeholders and their views have been used in proposing the environmental and social management plan (ESMP) measures.

Discussions with different official stakeholders and key staff in Ar-Raydah wa Qusayar District were also focusing on the importance and beneficiaries that fishermen community will gain with the rehabilitating the fish landing site in Ar-Raydah area with regards to improving services to the beneficiaries.

Figure 5 Consultation with local authorities in Ar-Raydah wa Qusayar district.

A consultation focused meeting was conducted at the landing site with several fishermen and some local officials. Another meeting was conducted with females in the landing site separately in a village house (Figure 7). The number of males who attended the meeting were thirty-two persons, whereas the number of females were twelve. Information have been delivered to the local communities about the activities to be undertaken, the sub-projects timetable, and the work plan.

Figure 6 Meetings with Fishermen and women community in the landing site area.

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 were focused also on raising awareness about the importance of environment in improving coastal community's livelihood, and how to protect environmental sensitive habitats. The team Informed them about their

roles in monitoring the compliance of contractors and workers in the worksites and their rights to give their concerns.

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 44 persons (32 males and 12 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 7 members (5 male and 2 female). 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. Consultation Results

Summary of Consultation for [Stakeholder name/community]		
Date of consultation	12/02/2023 13/02/2023	
Location of consultation	The administration building at Ar-Raydah Fish Landing Center Ar-Raydah wa Qusayar District building	
Total Number of participants (# of women / # of men)	Total 44 Men: 32 Women: 12	
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)?	Public announcement on public places to notice people attend the consultation in specific public venue time. PWP social team was working to mobilize communities' members without discrimination the day before public consultation. Women were involved to be members of the community committee for the project	
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)**

• Can the project achieve the fishermen's goals by meeting their needs within the center without needing to resort to other centers to purchase ice or fishing tools? (male)	• No, as the needs of your landing site required large cost and time and depend on donors, in this stage the basic needs of fishermen will be provided within the center such as perfect auction hall, administration offices, sanitation system, water supply and other issues that will alleviate the fishermen's suffering. In fact, this meeting with you is part of the preparation process, after we study all potential environmental and social risk/impact, we hand suitable plan (ESMP) to donor to get approve which may be take some time.	• Implementer PWP PWP, UNDP, WB
When project implementation will start as we heard more and more of pledges but nothing change on the ground.		
		• PWP, Contractor, community committee, fisheries associations, Technical Resident Engineer
• Temporary closure or disruption of parts of the harbor during renovation affecting their operations (male)	• The project avoids any potential risks that may harm the fishermen, whether economically or even their safety. • In collaboration with the Fish Association in the landing site the works will be implemented in successive phases and parts to guarantee the non-restriction on the daily work of the fish activity.	
• The Contribution of fishermen in Rehabilitation Works Despite their limited construction experience (male)	• As PWP consultant and coordinate with fisher associations to use the old Ar-Raydah and Al-Ramilah association's auction hall until contractor implemented phase one the new auction hall.	• Contractor, Technical Resident Engineer
• Can women participate in the project and monitor the activities? Will women's complaints be taken into consideration? (female)	• The project accepts skilled and unskilled labor. Any worker in the area has the potential and priority to participate in the project activities.	

	• Yes, women can participate in the project, starting from assessing needs until being elected as a social committee, one of whose most important roles is to monitor project activities. There will be a grievance mechanism (GM) system to manage, respond to, and monitor problems for any gender issues.	• Gender Focal Point, Community committee

8.3. Sustainability of Subproject and Community Ownership

PWP engages all affected parties of subprojects within the subprojects 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 committee by electing seven members from the local fishermen. 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 sub-project 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 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, community will be consulted on how a rehabilitated site will be managed in the future, what lessons can be learnt from the absence of management over the past 20 years. 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)[29], 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,

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

implementation aspects, as well as listen to stakeholders' concerns and feedback. Subarea's managers will conduct monthly meetings with community committees, and fish association around ten to twelve times during the implementation to coordinate with them for the implementation and safeguard issues, conducting awareness and training sessions regarding ESF requirements and their monitoring roles. Also, PWP resident engineers will be in 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 conducted 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 conducted to prepare for the subproject submission and operation process. Also, to conduct the training for beneficiaries and community committees on the project operation and maintenance to ensure subprojects sustainability.

8.5. Capacity Building

PWP conducts capacity building for different levels in all subproject's life cycle. 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 raising session was conducted covering all topics. The executive staff[30] as the main responsible for managing projects implementation at the governorates level will have training session in place to understand their responsibilities, liabilities, risk\impact assessment. 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. SEA/SH, GM, 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.

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

9. Grievance Mechanism[31]

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,
- ✓ Telephone: 8002626
- ✓ SMS, Telephone, and What's Up Number 775626262
- ✓ Face to face during visits of PWP teams.

PWP has GM staff at Head Quarters (HQ) 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. Complaint boxes are collected by PWP staff during bi-weekly field visits. Ensure registering all complaints and address all that can be resolved in the field. The designated GM Officer monitors complaints to ensure they are resolved satisfactorily, and complaints are closed. Complaints received will be recorded and investigated and the person who submits the complaints will be notified with the updates of his/her case. Similarly, all complaints received anonymously will be treated at the same level and as seriously as other complaints.

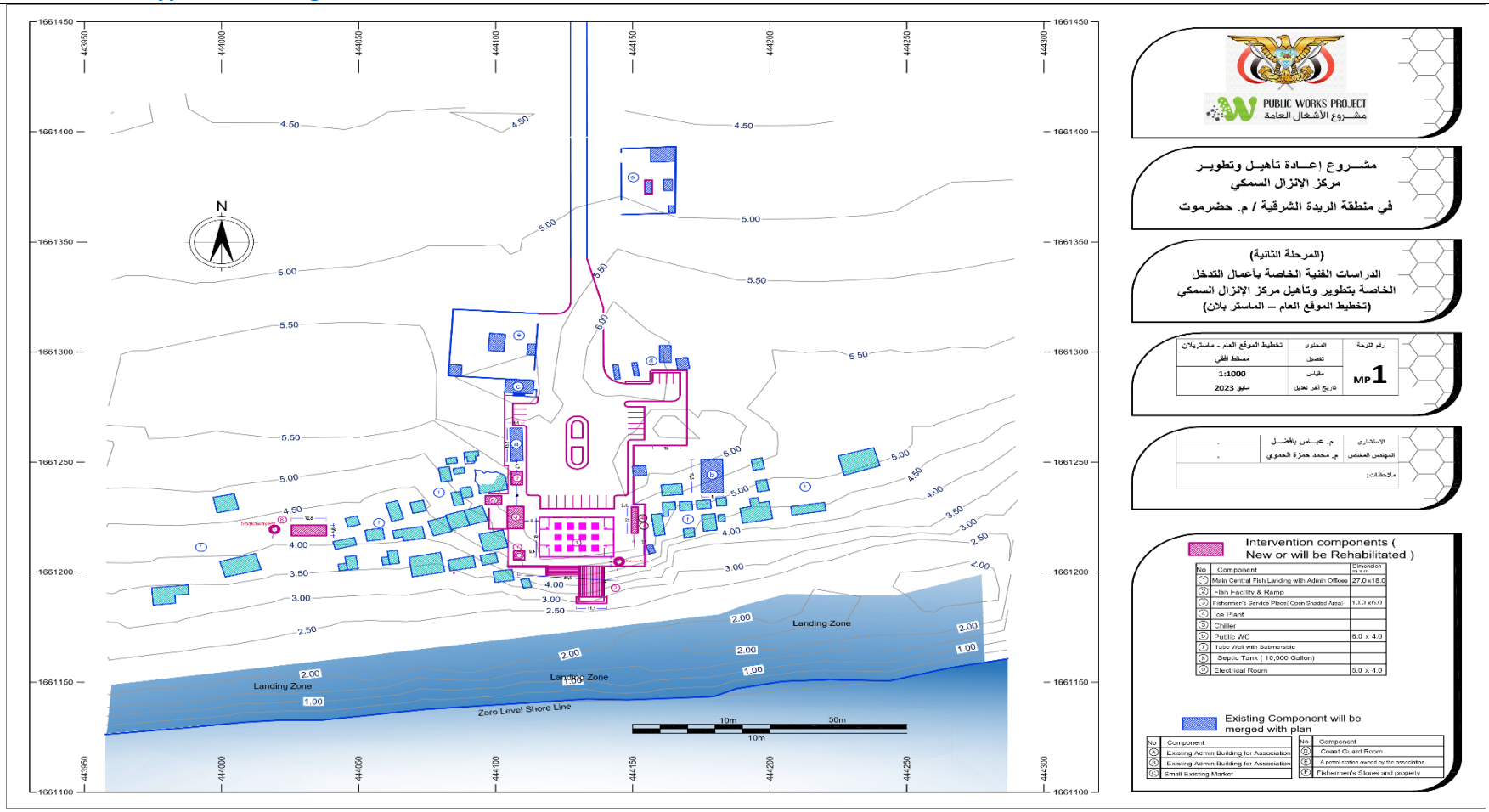
Every effort is made to resolve any issue at the community level and within a time frame of 14 days by community committee members, sub-area staff, and residential engineer, in case they could not able to solve complaints raised to the HQ's specialists. UNDP will monitor the implementation of the Grievance Mechanism (GM) system and follow up on pending complaints and provide any needed assistance in case PWP is not able to solve the complaints themselves or higher involvement is required through SRM- Stakeholder Response Mechanism- to help project-affected stakeholders, governments and other partners jointly resolve concerns and disputes SEA/SH related complaints will be managed within the overall GM in which complaints will be managed according to SEA/SH action plan[32] procedures. After

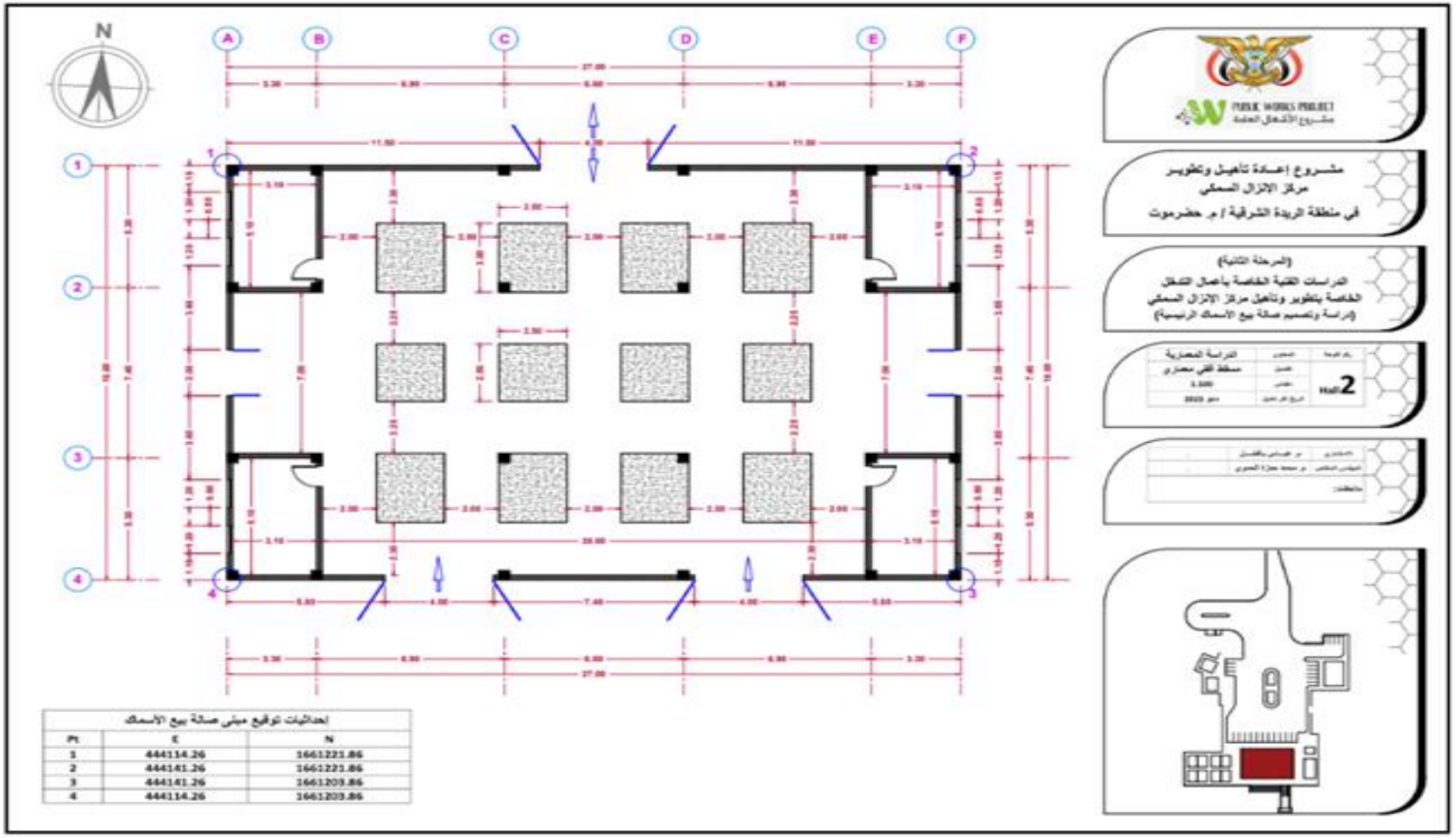
[31] https://www.undp.org/sites/g/files/zskgke326/files/2023-05/SFISH_SEP_April2023.pdf

[32] https://drive.google.com/file/d/1oPq0QSPFY8N8PXf40b6SssxpsA7dmjx0/view?usp=drive_link

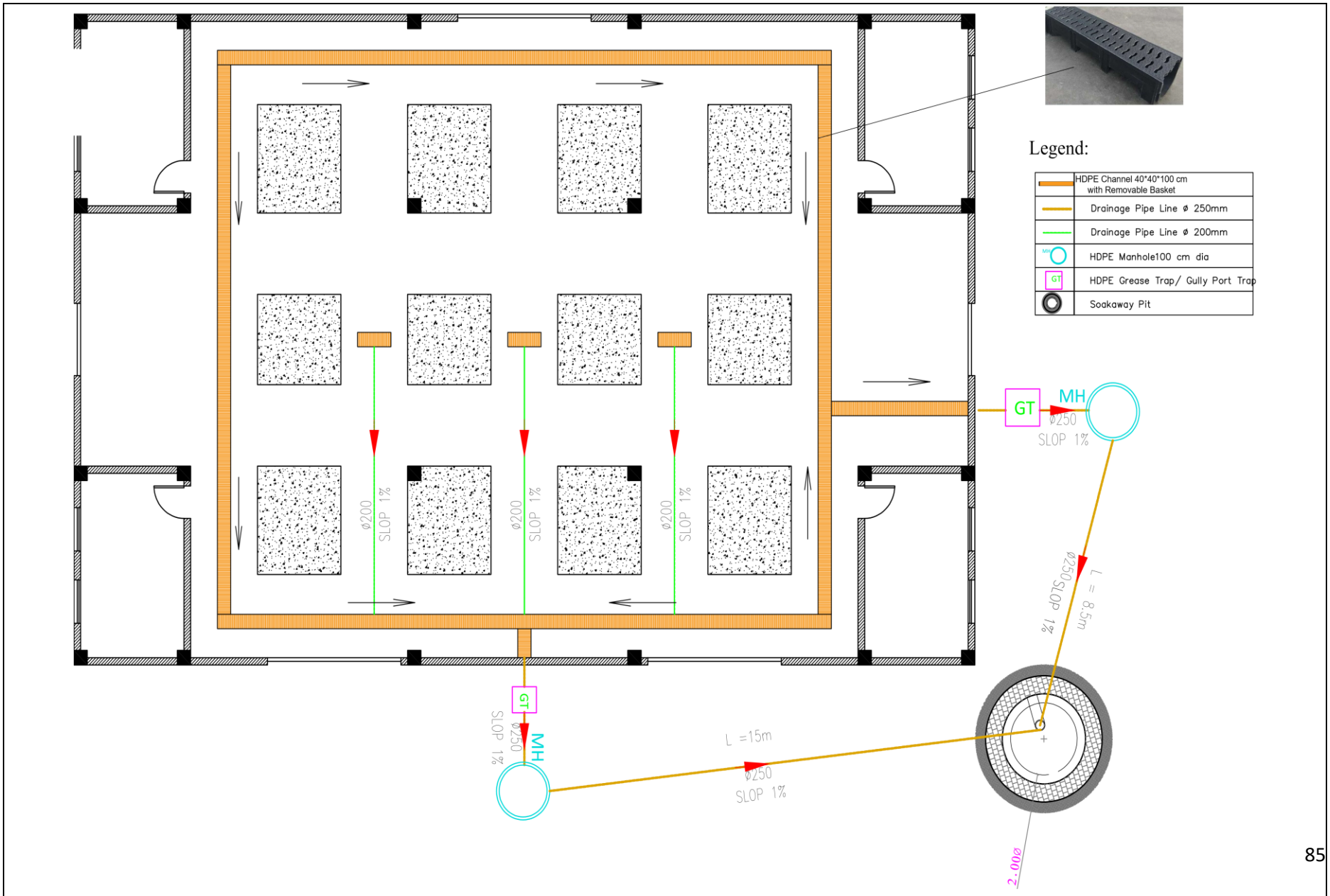
one year, the GM system will be reviewed in order to improve it. For instance, by examining the nature of complaints, complaints made by which gender, If the GM is adapted to women, if no women made complaints, *etc*.

Annex 1: Typical Drawings:

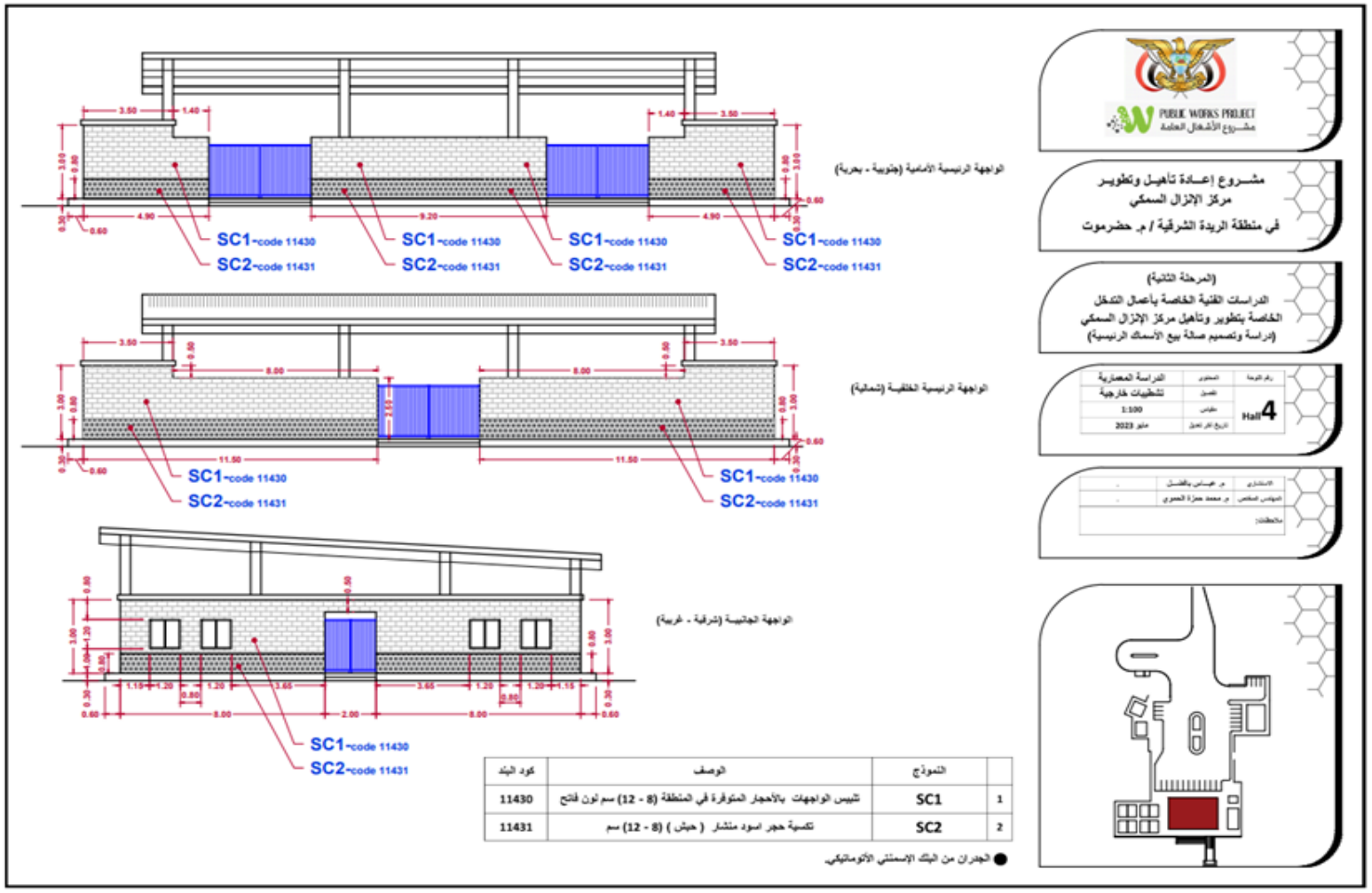


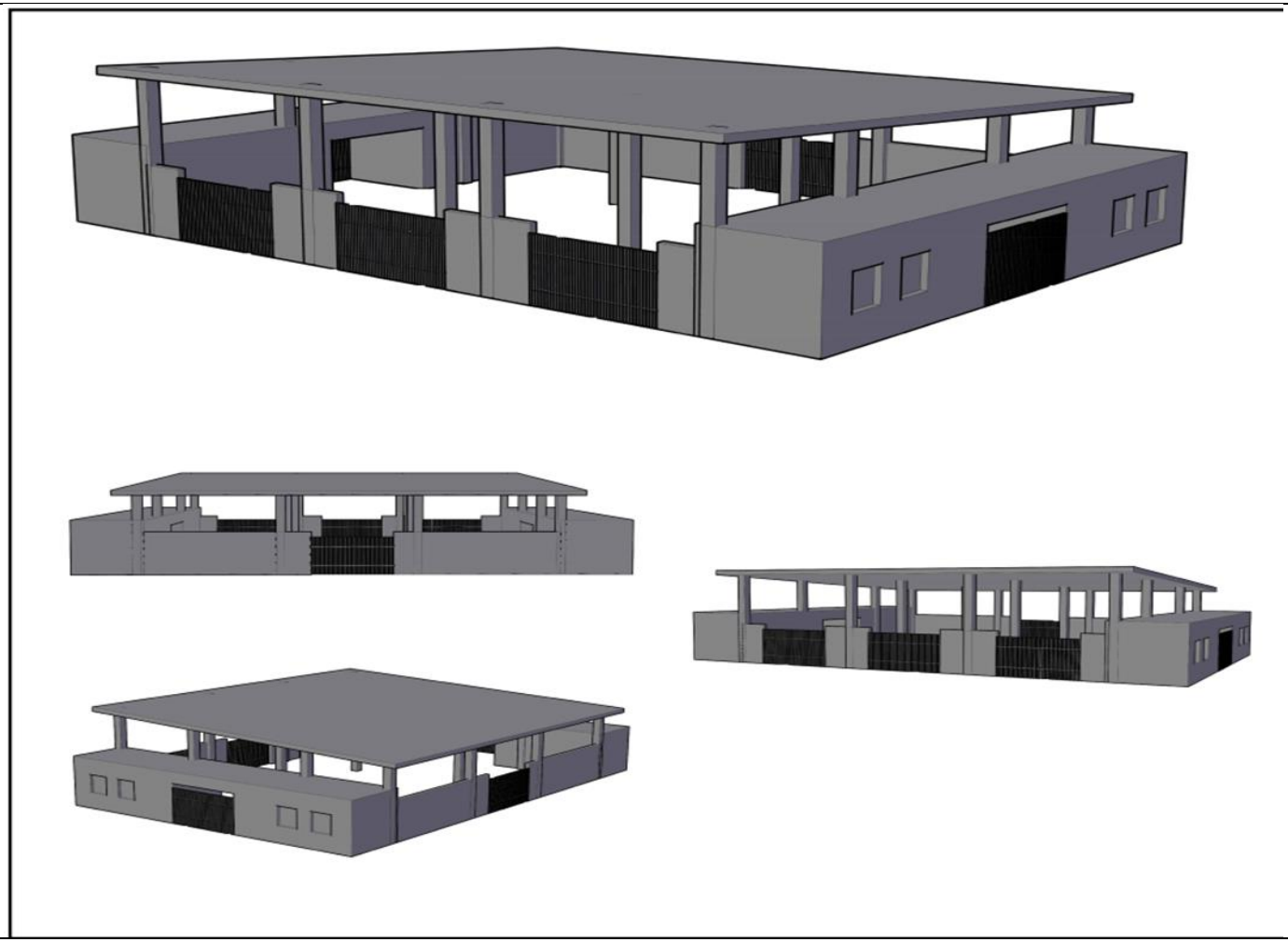

N
A
B
C
D
E
F
1
2
3
4
PUBLIC WORKS PROJECT
مشروع الأشغال العامة
مشروع إعادة تأهيل وتطوير
مركز الإنزال السمكي
في منطقة الزيدة الشرقية / م. حضرموت
(المرحلة الثانية)
الدراسات الفنية الخاصة بأعمال التشغيل
الخاصة بتطوير وتأهيل مركز الإنزال السمكي
(دراسة وتصميم صالة بيع الأسماك الرئيسية)
الدراسة المعمارية
مسقط أفقي معماري
Hall 2
إحداثيات توقيع مبنى صالة بيع الأسماك
Pt
E
N
1
444114.26
1661221.86
2
444141.26
1661221.86
3
444141.26
1661203.86
4
444114.26
1661203.86

Drawings showing the master Plan of the project

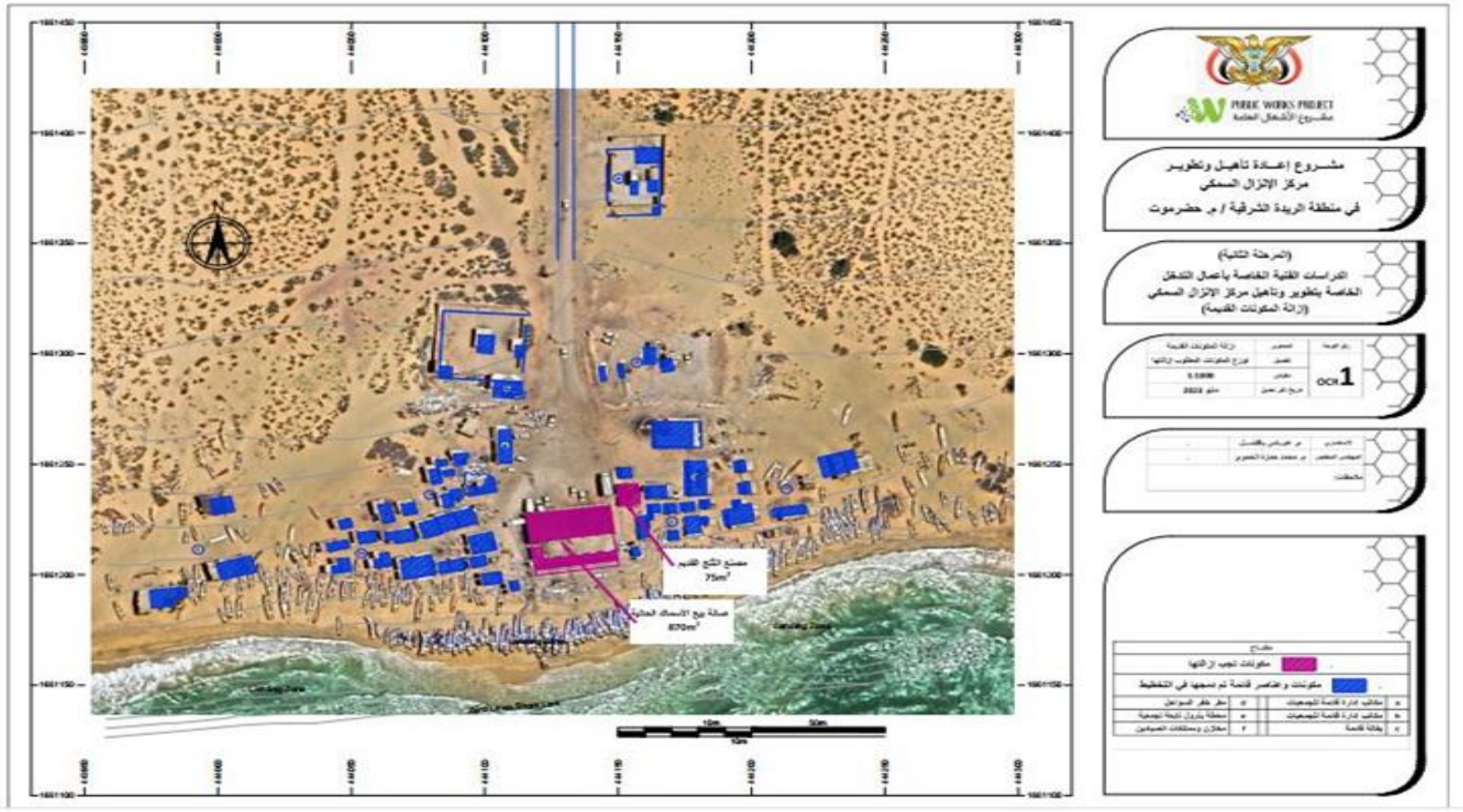

Legend:
HDPE Channel 40*40*100 cm with Removable Basket
Drainage Pipe Line ø 250mm
Drainage Pipe Line ø 200mm
HDPE Manhole100 cm dia
HDPE Grease Trap/ Gully Port Trap
Soakaway Pit
GT
MH
ø250
SLOP 1%
ø200
SLOP 1%
L =15m
L = 8.5m
2.00ø

Auction Hall Drainage Schematic

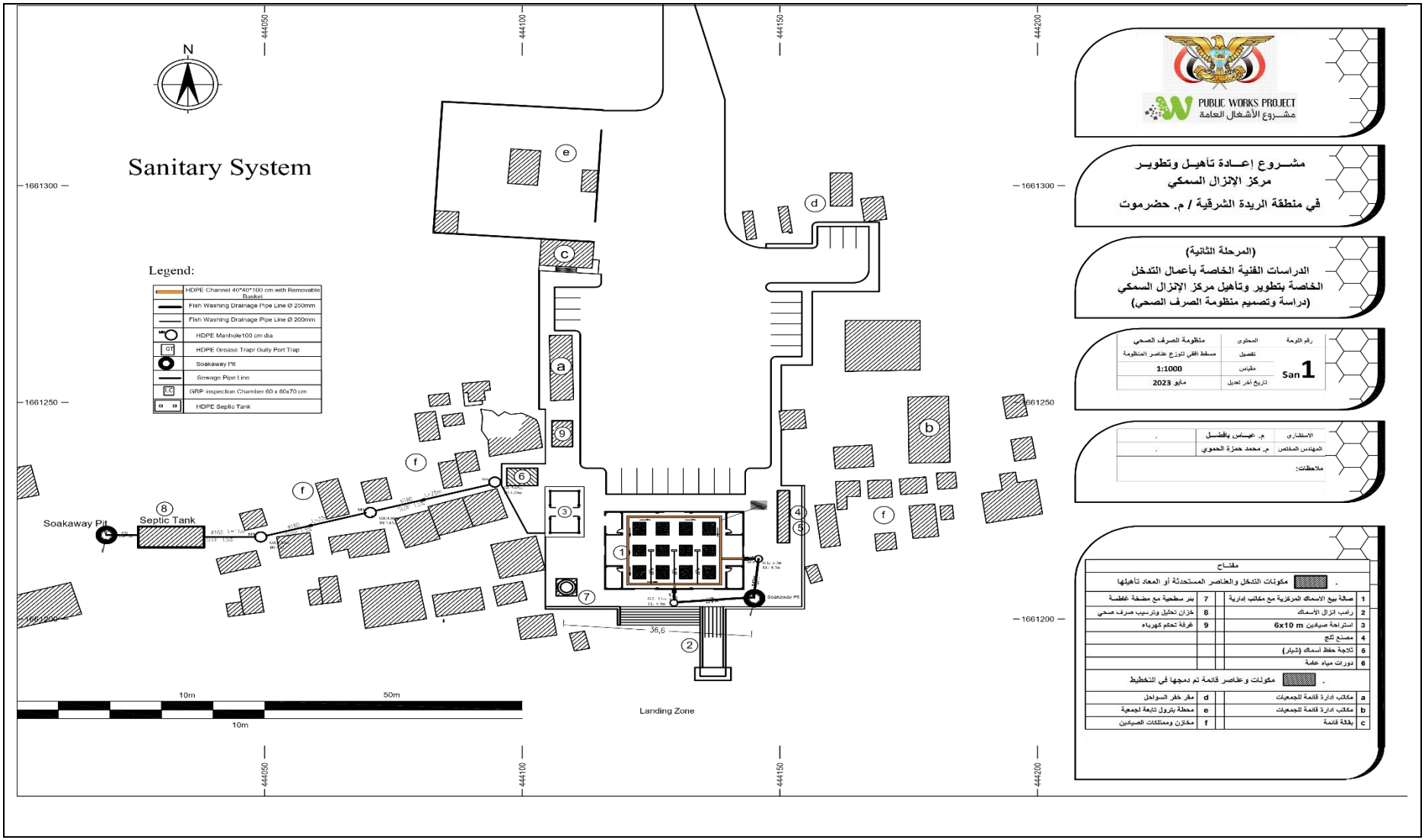

PUBLIC WORKS PROJECT
مشروع الأشغال العامة
مشـــروع إعـــادة تأهيـل وتطويـر
مركز الإنزال السمكي
في منطقة الريدة الشرقية / م. حضرموت
(المرحلة الثانية)
الدراسات الفنية الخاصة بأعمال التدخل
الخاصة بتطوير وتأهيل مركز الإنزال السمكي
(دراسة وتصميم صالة بيع الأسماك الرئيسية)
Hall 4
الواجهة الرئيسية الأمامية (جنوبية - بحرية)
الواجهة الرئيسية الخلفية (شمالية)
الواجهة الجانبية (شرقية - غربية)
SC1 -code 11430
SC2 -code 11431
النموذج
الوصف
كود البند
1 SC1 تبييس الواجهات بالأحجار المتوفرة في المنطقة (8 - 12) سم لون فاتح 11430
2 SC2 تكسية حجر اسود منشار (حبش) (8 - 12) سم 11431
الجدران من البلك الإسمنتي الأتوماتيكي



Drawings showing the auction hall


PUBLIC WORKS PROJECT
مشروع الأشغال العامة
مشـروع إعـادة تأهيـل وتطويـر
مركز الإنزال السمكي
في منطقة الربدة الشرقية / م. حضرموت
(المرحلة الثانية)
الدراسات الفنية الخاصة بأعمال التدخل
الخاصة بتطوير وتأهيل مركز الإنزال السمكي
(إزالة المكونات القديمة)
OCH1
مصنع الثلج القديم
75m²
صالة بيع الأسماك الحالية
870m²
10m
50m

Drawings showing the old auction hall site


Sanitary System
N
Legend:
HDPE Channel 40*40*100 cm with Removable Basket
Fish Washing Drainage Pipe Line Ø 250mm
Fish Washing Drainage Pipe Line Ø 200mm
HDPE Manhole100 cm dia
HDPE Grease Trap/ Gully Port Trap
Soakaway Pit
Sewage Pipe Line
GRP inspection Chamber 60 x 60x70 cm
HDPE Septic Tank
Soakaway Pit
Septic Tank
Landing Zone
36,6
10m
50m
10m
1661300
1661250
1661200
444050
444100
444150
444200
PUBLIC WORKS PROJECT
مشـــروع الأشغال العامة
مشـــروع إعـــادة تأهيـــل وتطويـــر
مركز الإنزال السمكي
في منطقة الريدة الشرقية / م. حضرموت
(المرحلة الثانية)
الدراسات الفنية الخاصة بأعمال التدخل
الخاصة بتطوير وتأهيل مركز الإنزال السمكي
(دراسة وتصميم منظومة الصرف الصحي)
رقم اللوحة San 1
المحتوى منظومة الصرف الصحي
تفصيل مسقط افقي لتوزع عناصر المنظومة
مقياس 1:1000
تاريخ اخر تعديل مايو 2023
الاستشاري م. عبـــاس بافضـــل
المهندس المختص م. محمد حمزة الحموي
ملاحظات:
مفتـــاح
مكونات التدخل والعناصر المستحدثة أو المعاد تأهيلها
1 صالة بيع الأسماك المركزية مع مكاتب إدارية
2 رامب انزال الأسماك
3 استراحة صيادين 6x10 m
4 مصنع ثلج
5 ثلاجة حفظ أسماك (شيلر)
6 دورات مياه عامة
7 بئر سطحية مع مضخة غاطسة
8 خزان تحليل وترسيب صرف صحي
9 غرفة تحكم كهرباء
مكونات وعناصر قائمة تم دمجها في التخطيط
a مكاتب ادارة قائمة للجمعيات
b مكاتب ادارة قائمة للجمعيات
c بقالة قائمة
d مقر خفر السواحل
e محطة بترول تابعة لجمعية
f مخازن وممتلكات الصيادين

Drawing showing the sanitary system

Figure 7 Show the typical drawings for Fish Landing Site

Annex 2: Environmental and Social Screening for Eligibility Environmental and Social Screening Checklist for the Proposed Subproject.

Table 7 Environmental and Social Screening for Eligibility Environmental and Social Screening Checklist

Sub-Project No.	07-9-16079
1: The Natural Environment	Answer Negative Impact Rate (Minor/Moderate/Substantial/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)? _____km Habitats of endangered species for which protection is required under Yemeni laws and/or international agreements Others (describe) (e.g., cultural sites, burial places, etc.)	 NA NA NA NA NA
2. Fauna and Flora	
2.1 Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?	NA
2.2 Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?	NA

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?	NA
3.Destruction/Disruption of Land and Vegetation	
3.1 Will the subproject lead to unplanned use of the infrastructure being developed?	Minor
3.2 Will the subproject lead to the destruction of soils in cleared areas not suited for agriculture?	NA
3.3 Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?	NA
3.4 Will the subproject lead to landslides, slumps, slips, and other mass movements in soil?	NA
3.5 Will the subproject lead to erosion of lands?	NA
3.6 Will the subproject lead to health hazards and interference of plant growth by the dust raised and blown by vehicles?	Minor
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.)	NA
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)	Minor
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 cleaning and washing in the auction yard, etc. Chemicals will be used temporarily during rehabilitation of the landing site through painting processes and possible oil spills from fishing boats if not managed properly.	Moderate
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)?	NA
5.2 Based upon visual inspection or available literature, are there areas that have risks soil salinity?	NA
6 Landscape/aesthetics	

6.1 Is there a possibility that the subproject will adversely affect the aesthetic attractiveness of the local landscape?	NA
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?	NA
8. Resettlement and/or Land Acquisition	
8.1 Will the subproject require land acquisition?	NA
8.2 If so, will this land acquisition be involuntary?	NA
8.3 If so, will this involuntary land acquisition lead to relocation or loss of shelter, loss of assets, or access to assets?	NA
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)?	NA
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?	NA
8.6 Will the subproject led to permanent physical or economic displacement	NA
8.7 Will the subproject led to temporary physical or economic displacement	Minor
8.8 Will the project bring about consolidation or adjustment of tenure rights?	NA
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 the subproject generate 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 raw materials/construction materials?	Moderate
12.2 Will subproject generate 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)?	Moderate
12.4 Will the subproject lead to contamination of ground and surface water bodies by herbicides for vegetation control and chemicals for dust control?	NA
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?	NA
12.6 Will subproject lead to the destruction of vegetation and soil in the right-of-way; borrow pits, waste dumps, and equipment yards?	NA
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?	NA
12.8 Will this project include the development irrigation scheme?	NA
12.9 Will this project aim at improving an irrigation scheme (without expansion)?	NA
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)?	NA
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?	Minor
13.2 Will this project affect the labor conditions, child and force labour?	Minor

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.	NA
14.3 Will this subproject cause any conflict among communities	NA
15. Indigenous People	
15.1 Are indigenous peoples present in the Project area (including the Project area of influence)?	NA
15.2 Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	NA
15.3 Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples?	NA
15.4 Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	NA
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)?	Minor

16.4 Would failure of structural elements of the Project pose risks to communities? (e.g., the collapse of buildings or infrastructure)?	NA
17. Working Conditions	
17.1 Would the Project result in health risks (e.g., from water-borne or other vector-borne diseases)?	NA
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: PWP Environmental and Social Responsiveness (ESR) Criteria at Proposal Stage

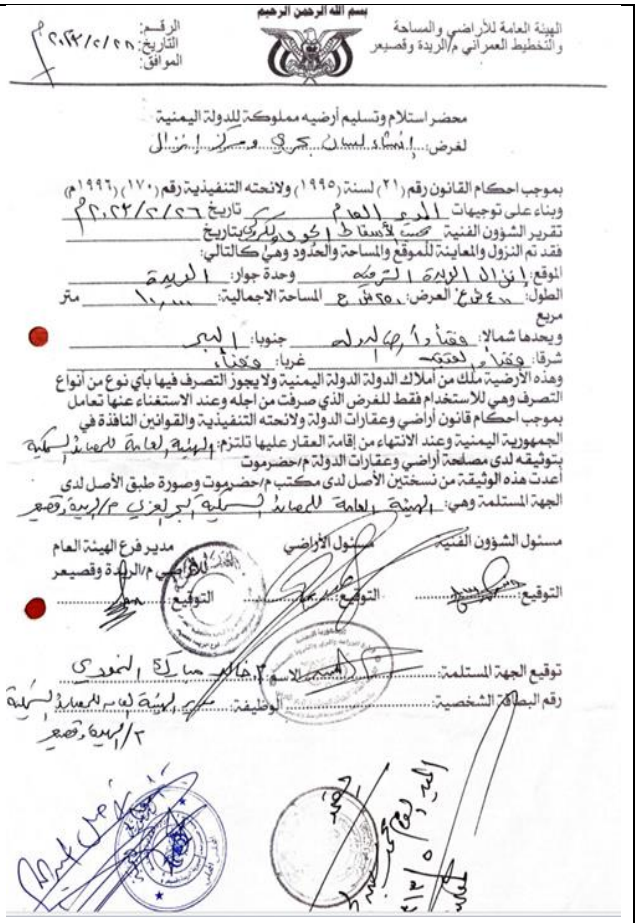
Table 8 PWP Environmental and Social Responsiveness (ESR) Criteria at Proposal Stage

Proposal Title	**Rehabilitation and Development of Ar-Raydah Fish Landing Site**
Proposal Location	**Hadhramout 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 provide help for them in the 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 subproject.	Yes
Targeted beneficiaries are highly in need of this project	Yes
All communities including (Male, female, and children) 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 maintenance are defined and committed by the 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 4: Public Consultation Reports (Social agreements & Land Registration, public consultation minute) – Arabic

Below are copies of the public consultation reports, for a summary please refer to Section 4.5.1.



بسم الله الرحمن الرحيم

الجمهورية اليمنية
وزارة الادارة المحلية
محافظة : حضرموت
مديرية :الريدة وقصيعر

الرقـم :
التاريخ : 22/ 8/ 1445هـ
الموافق : 3/ 3/ 2024م

محضر تنفيذ عملية المشاورات المجتمعية

لمشاريع مراكز الانزال السمكي

اسم المشروع : مركز الانزال السمكي منطقة الريدة الشرقية – مديرية الريدة وقصيعر . رقم المشروع :

اليوم : الاحد الموافق : / 3/ 2024م

المدينة : الريدة الشرقية المديرية : الريدة وقصيعر المحافظة : حضرموت

تم الاجتماع مع المستفيدين من الجمعيات السمكية في منطقة المشروع المذكورة اسمائهم في الجدول أدناه وتنفيذ عملية المشاورات المجتمعية معهم حول الية تنفيذ المشروع والترتيبات والتسيقات التي سيتم العمل بها تحت اشراف الجهات المستفيدة ممثلة بالسلطة المحلية بالمديرية وهيئة المصائد السمكية وذلك دون تعطيل عمل الصيادين او قطع مصدر رزقهم ..

الاراء والمقترحات :

رئيس جمعية الريدة السمكية

رئيس جمعية الرميلة السمكية

التوقيع

الختم

عبد الباسط عبدالله باجعيد

مدير عام مديرية الريدة و قصيعر

Figure 8 Public Consultation Reports (Social agreements & Land Registration, public consultation minute) – Arabic

Annex 5: Complaints Handling Mechanism

Figure9 PWP Complaints Handling Mechanism