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**REPUBLIC OF YEMEN
YEMEN EMERGENCY HUMAN CAPITAL PROJECT (YEHCP)
(P176570)**

Environmental and Social Management Framework (ESMF)

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Abbreviations

AWD	Acute Watery Diarrhea
CERC	Contingent Emergency Response Component
CSO	Civil Society Organization
DFID	Department for International Development
DLAs	District Local Authorities
DNA	Damage and Needs Assessment
ECRP	Yemen Emergency Crisis Response Project
EHS	Environmental, Health and Safety
EHNP	Emergency Health and Nutrition Project
EPL	Environmental Protection Law (26/1995)
ESF	Environmental and Social Framework of the World Bank
ESHS	Environment, Social (including labor), Health, and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
FMFA	Financial Management Framework Agreement
FCV	Fragility, Conflict and Violence
GBV	Gender Based Violence
GDP	Gross Development Product
GHS	General Health and Safety guidelines
GIIP	Good International Industry Practice
GIS	Geographic Information System
GIZ	Gesellschaft für Internationale Zusammenarbeit
GM	Grievance Mechanism
GRM	Grievance Redress Mechanism
GOAM	General Organization for Antiquities and Museums
HSSE	Health, Safety, Social and Environment
ICRC	International Committee of the Red Cross
IDA	International Development Association
IDP	Internally Displace Person
LC	Local Corporation
LED	Light Emitting Diode
LMP	Labor Management Procedures
LTI	Lost Time Injury
MoPIC	Ministry of Planning and International Cooperation
MoWE	Ministry of Water and Environment
MSP	Minimum Service Package
NGO	Non-Governmental Organization
NWSSIP	National Water Sector Strategy and Investment Program
PAP	Project Affected People
PMU	Project Management Unit
PWP	Public Works Project
RCA	Root Cause Analysis
RoY	Republic of Yemen
SCAP	Safeguards Corrective Action Plan
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
SEP	Stakeholder Engagement Plan
SMP	Security Management Plan
TCC	Technical Coordination Committee

TPM	Third Party Monitoring
UNDP	United Nations Development Program
UNICEF	United Nations Children's Emergency Fund
UNOPS	United Nations Office for Project Services
UWS-PMU	Urban Water and Sanitation Project Management Unit
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WSLC	Water and Sanitation Local Corporations
WSS	Water Supply and Sanitation
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant
YEHCP	Yemen Emergency Human Capital project
YIUSEP I	First Yemen Integrated Urban Services Emergency Project

Glossary of Terms Used in the ESMF

Chance find procedure. A chance find is archaeological material encountered unexpectedly during project construction or operation. A chance find procedure is a project-specific procedure which will be followed if previously unknown cultural heritage is encountered during project activities. The chance finds procedure will set out how chance finds associated with the project will be managed. The procedure will include a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence off the area of finds or sites to avoid further disturbance; to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with national law; and to train project personnel and project workers on chance find procedures.

Child labor consists of work by children that is economically exploitative or likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

Compliance compares how well a process meet the requirements placed on the process.

Disposal. Final placement or destruction of wastes, polluted soils, and toxic or hazardous materials. Disposal may be accomplished through approved secure landfills, surface impoundments, or incineration.

Effluent. Wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall; generally, refers to wastes discharged into surface waters.

Environmental, Health, and Safety Guidelines (EHSGs) are technical reference documents with general and industry-specific statements of Good International Industry Practice. The EHSGs contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable cost. For complete reference, consult the World Bank Group Environmental, Health, and Safety Guidelines, http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines.

Environment and Social Impact Assessment (ESIA) identifies and assesses the potential environmental risks impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures.

Environmental and Social Management Plan (ESMP) details: (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental impacts, or to reduce them to acceptable levels; and (b) the actions needed to implement these measures.

Environmental and Social Management Framework (ESMF) is an instrument that examines the risks and impacts when a project consists of a program and/or series of subprojects, and the risks and impacts cannot be determined until the program or subproject details have been identified.

Good International Industry Practice (GIIP) is defined as the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the project employs the most appropriate technologies in the project-specific circumstances.

Grievance. An issue, concern, problem, or claim (perceived or actual) that an individual or community group wants a project implementor or contractor to address and resolve.

Grievance Mechanism (GM) is a locally based, formalized way to accept, assess, and resolve community feedback or complaints from individuals or communities who believe they are adversely affected by the Project.

Hazardous wastes. By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Substances classified as hazardous

wastes possess at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity—or appear on special lists.

Lost Time Injury (LTI) is the incapacity to work for at least one full workday beyond the day on which the accident or illness occurred.

Lost workdays are the number of workdays (consecutive or not) beyond the date of injury or onset of illness that the employee was away from work or limited to restricted work activity because of an occupational injury or illness.

Mitigation. Measures taken to reduce adverse impacts on the environment.

Monitoring. Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements or pollutant levels in various media or in humans, animals, and other living things.

Occupational Health and Safety deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards (WHO).

Sludge. A semisolid residue from any of a number of air or water treatment processes. Sludge can be a hazardous waste.

Solid wastes. Nonliquid, nonsoluble materials, ranging from municipal garbage to industrial wastes, that contain complex, and sometimes hazardous, substances. Solid wastes include sewage sludge, agricultural refuse, demolition wastes, and mining residues. Technically, solid wastes also refer to liquids and gases in containers.

Stakeholder. Persons or groups who are directly or indirectly affected by a project as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. They may include locally affected communities or individuals and their formal or informal representatives, national or local government authorities, politicians, religious leaders, civil society organizations and groups with special interests, the academic community, or other businesses.

Stakeholder Engagement is a broad, inclusive, and continuous process between a project proponent and those potentially affected by the project that usually spans the project's life. It includes consultations, information disclosure and dissemination, and participation.

Wastewater Treatment Plant. A facility containing a series of tanks, screens, filters, and other processes by which pollutants are removed from water.

Executive summary

This Environmental and Social Management Framework (ESMF) was prepared by UNOPS specific to Component 2 (WASH) of the Yemen Emergency Human Capital Project (YEHCP-Component 2; P176570).

The World Bank is financing the YEHCP to provide essential health, nutrition, water and sanitation services to the population of Yemen, with a rationale of added value by having the ability to deliver a continuum of response mechanisms along the humanitarian-development nexus and ensuring the Bank's effective collaboration with partners to mobilize a successful and technically sound crisis response in Yemen. The Project aims to improve access to healthcare, nutrition, and public health services (Component 1, which will be implemented by WHO and UNICEF) and to improve access to water supply and sanitation (WSS) and strengthening local systems (Component 2, which will be implemented by UNOPS).

Component 2 of the project will be implemented by UNOPS through direct implementation as well as project cooperation agreements between UNOPS and two local Implementing Partners: (i) the Public Works Project (PWP) and (ii) Urban Water and Sanitation Project Management Unit (UWS-PMU). UNOPS will: (a) take responsibility for project implementation; (b) monitor the project targets and results including environmental and social safeguards implementation in coordination with the local partners; (c) handle relevant procurement, financial management, and disbursement management including the preparation of withdrawal applications under the project; and (d) ensure that all reporting requirements for IDA are met per the Project Financing Agreement.. UNOPS has recruited an Occupational Health and Safety Officer in addition to the Environmental and Social Safeguards Officer (ESSO) based in Sana'a, to oversee Project safeguards and OHS, as well as Gender Mainstreaming Officer, and a part-time international expert to be available – on a need basis – to oversee the overall implementation, monitoring and reporting of environmental and social risks management and support the ESSO in the implementation of the ESMF. Each implementing partner will deploy an ESSO and a Health and Safety Officer.

The ESMF was prepared to meet the requirements of the World Bank's Environmental and Social Framework (ESF), most particularly the Environmental and Social Standard on the Assessment and Management of Environmental and Social Risks, including the World Bank Group Environment, Health and Safety (EHS) Guidelines. It also meets the UNOPS Environmental, Health and Safety (EHS) procedures and practices and complies with Yemeni environmental and social laws and regulations.

The use of a Framework is appropriate and necessary, given that the Project's Component 2 consists of a large number of subprojects in many different localities, and that the specific location and activities of each subproject will only be determined during implementation.

Specific to YEHCP-Component 2, UNOPS has in parallel prepared a Labor Management Procedure (LMP) to meet the requirements of ESS2, a GBV/SEA/SH Plan and a Security Management Plan (SMP) to meet the requirements of ESS4, a Resettlement Framework to meet the requirements of ESS5, and a Stakeholder Engagement Plan (SEP), to meet the requirements of ESS10.

Component 2 of the project will only rebuild, restore, or rehabilitate existing WASH infrastructure. There will be no expansion of existing facilities nor the creation of new ones, and rehabilitated work of the existing WASH facilities will be handed over to the WASH facilities administration for operations.

The bulk of the ESHS risks and impacts is directly associated with the re-construction and rehabilitation activities of the contractors who will rebuild, rehabilitate, and restore the targeted facilities. Although the risk profile might differ between specific activities, the overall risk profiles of construction activities are analogous.

UNOPS is responsible for the overall implementation of the ESMF. More specifically UNOPS will

ensure that:

- sub-projects are screened for environmental and social risks and impacts and site specific ESIA's and ESMPs are prepared in a timely manner, as needed.
- tender documents and construction contracts include effective and enforceable contractual clauses to manage environmental and social risks and impacts
- no activities start before the required environmental and social risks and impact management measures are in place
- the environmental and social performance of contractors at all times meets the Project's environmental and social requirements.

The ESMP details specific mitigation measures for the WASH sector.

The ESSOs will screen all subproject proposals prepared by UNOPS and its Implementing Partners to: (i) determine the environmental and social issues that might be triggered by the subproject, (ii) identify the relevant Environmental and Social Standards (ESS); (iii) determine the appropriate Environmental and Social risk rating for the subproject, and; (iv) specify the type of environmental and social assessment required, including specific instruments/plans.

UNOPS will prepare proportionate ESMPs for subprojects not requiring a full ESIA and ESMP, according to the following table of content:

- (i) Summary Sheet
- (ii) Subproject Description
- (iii) Environmental and Social Baseline
- (iv) Consultations
- (v) Mitigation Instruments

Subprojects that cause significant environmental and social impacts will require a full ESIA and ESMP, and might also require a Resettlement Plan. Guidance for resettlement planning is detailed in the Project's Resettlement Framework.

UNOPS and its Implementing Partners will apply the World Bank's requirements for consultation and disclosure, as detailed in the Project Stakeholder Engagement Plan.

UNOPS has conducted consultations in Sana'a for Northern Governorates and in Aden for Southern Governorates with stakeholders covering all project areas and including total number of 657 participants from different governorates and various agencies to ensure full participation of all stakeholders in the areas targeted by the project. Various types of stakeholders, e.g. ministries including Ministry of Water and Environment MWE and Ministry of Health and Population MoHP, Governorate Offices including Water and Sanitation Local Corporations WSLCs and Health Local Offices, Local Councils, Civil Societies and NGOs as well as implementing partners were invited to the consultation meetings from 9 to 24 June 2021.

Social consultations with beneficiaries and local communities will be initiated as soon as subprojects screening has been completed and consultation records will be kept in the Project Office.

Consultations will take into consideration the sociocultural context of Yemen, as well as the ongoing COVID-19 epidemic.

UNOPS and its Implementing Partners will incorporate **environmental and social requirements for contractors** in tender documentation and contract documents, so that potential bidders are aware of environmental and social performance requirements expected from them and are able to reflect that in their bids. The cost to contractors of meeting the ESHS requirements will be included in their respective contracts. UNOPS and its Implementing Partners will enforce compliance by contractors with these requirements.

The requirements include 10 sections:

- (i) Contractor Environmental and Social Management Plan (C-ESMP)
- (ii) ESHS Training
- (iii) Construction Site Management
- (iv) Occupational Health and Safety (OHS)
- (v) Road safety and Traffic Safety
- (vi) Chance Find Procedures
- (vii) Emergency Preparedness and Response
- (viii) Stakeholder Engagement
- (ix) Code of Conduct

UNOPS will **monitor and report** on implementation of the ESMF, with inputs from implementation partners and the TPM agent. The UNOPS ESSO will ensure that safeguards monitoring is included in the Project's quarterly reports to the World Bank.

The Project will establish a **Grievance Redress Mechanism (GRM)**, as detailed in the Project Stakeholder Engagement Plan, which will be used for environmental, resettlement and social issues. The ESSO in UNOPS and the Implementing Partners will handle Project activity-related complaints.

UNOPS is fully covering, as part of the fee that it will charge the Bank, the cost of the ESSO, the Gender Mainstreaming Officer, the health and Safety Officer and a part time international expert to be available - on a need basis – to oversee the overall implementation, monitoring and reporting of environmental and social risks management aspects., as well as any associated operational costs.

The Implementing Partners are covering the cost of their respective ESSOs and Health and Safety Officers as part of their respective Project Cooperative Agreement (PCA) with UNOPS. These staff might not work full time on YEHCP –Component 2 activities, as each Implementing Partners has partnered with several projects.

The cost of due diligence for specific subprojects (preparation of the screening form, consultations, GRM, preparation of environmental and social instruments, and monitoring) are included in the costs/budget for each subproject.

Chapter 1.

Introduction and Background

1.1 Introduction

This Environmental and Social Management Framework (ESMF) was prepared by UNOPS for the Project's Component 2 (the WASH component) as agreed with the World Bank and the other UN agencies to meet the requirements of the World Bank's Environmental and Social Framework (ESF), as well as national environmental laws and regulations, for the Yemen Emergency Human Capital Project (YEHCP-Component2; P176570). The use of an ESMF is appropriate and necessary, given that the Project's Component 2 consists of a large number of subprojects in many different localities, and that the specific locations and activities of each subproject will only be determined during implementation.

The ESMF will guide UNOPS and its Implementing Partners, to ensure that all subprojects meet the requirements of the ESF, including the preparation of subproject specific Environmental and Social Management instruments in accordance with the ESF. For this purpose, the ESMF details how UNOPS will screen each subproject to assess its environmental and social risks and impacts, identify the necessary mitigation measures, and monitor ESMP implementation, most particularly the environmental and social performance of Project contractors.

Specific to YEHCP-Component 2, UNOPS has in parallel prepared a Labor Management Procedure (LMP) to meet the requirements of ESS2, a GBV/SEA/SH Plan and a Security Management Plan (SMP) to meet the requirements of ESS4, a Resettlement Framework to meet the requirements of ESS5, and a Stakeholder Engagement Plan), which is prepared jointly by UNOPS, WHO, and UNICEF, to meet the requirements of ESS10.

1.2 Background¹

Violent conflict, now in its seventh year, has crippled Yemen's economy and created an unprecedented humanitarian crisis. Yemen has been embroiled in conflict, inflicting considerable physical damage to infrastructure, ravaging its economy, weakening institutions, and protracting what has already been the world's worst humanitarian crisis in a long time. According to the United Nations Development Program (UNDP)'s estimates, there were 102,000 combat deaths and 131,000 indirect deaths due to lack of food, health services and infrastructure, and many more injuries between 2015 and 2019.² Diverse factors including tribal, regional and sectarian divisions, long-standing grievances, elite capture of limited resources and rampant corruption have been the major causes of fragility drivers operating across Yemen. While conflict has been a key factor in the gradual breakdown of national structures essentially crippling service delivery, particularly in life-critical sectors such as health, violence alone cannot account for the magnitude of suffering with other factors like fragmentation, poor coordination, limited transparency and weak governance further complicating the picture on the ground.³

The country has long been mired in fragility and poverty, with dwindling natural resources (scarcity of water resources in terms of quantity and deteriorated quality and cultivable and livable land) further exacerbating tensions. As a direct consequence, even before the conflict, Yemen was plagued by cyclical violence, making it the poorest and least developed country in the Middle East and North Africa (MENA) region. Based on data from before the conflict, the World Bank Human Capital Index

¹ The Background section is borrowed from the Project Appraisal Document

² Moyer J, et al. 2019, Assessing the Impact of Conflict on Human Development in Yemen, UNDP. <https://www.undp.org/content/dam/yemen/General/Docs/ImpactOfWarOnDevelopmentInYemen.pdf> (accessed 11/23/20)

³ AlKarim T, et al. BMJ Global Health 2021; 6:e004740. doi:10.1136/bmjgh-2020-004740

ranks Yemen at 143 out of 157 countries with an index score of 0.37, and girls scoring lower at 0.35. This essentially means that a child born today in Yemen will realize only 37 percent of his/her full productivity potential.

Yemen, a country located in a dry and semi-arid region, is already facing a severe water crisis in which several major cities are running out of water. Mostly due to high population growth, misguided agricultural development, traditional irrigation practices and type of cropping patterns, a lack of law enforcement to regulate water use, and vulnerability to climate change, the crisis may soon reach catastrophic levels. Yemen's acute water scarcity poses a serious threat to the country's stability and security. While the past six years of conflict cannot be attributed solely to water shortage, it is an important contributor. Studies reveal that water scarcity acts as a security threat multiplier in regions characterized by a growing population, social and political tensions, as well as ineffective and unaccountable state institutions – such as in Yemen. The recent impacts of climate change and armed conflict on the country's dwindling water resources create a new urgency to address this old problem.

The Yemeni economy has been badly affected by the prolonged conflict, depriving millions of their livelihoods and jobs and driving poverty levels up to over 80 percent. The Gross Domestic Product (GDP) for 2018 was estimated at US\$23 billion, and although official statistics are no longer available, evidence suggests that Yemen's GDP has contracted by about 40 percent cumulatively since 2015.⁴ Significant damage to vital public infrastructure including health, WASH, and education facilities and private residences has contributed to a decline in access to basic services (such as health, water and sanitation) and led to an internal displacement of over 10 percent of the population. Reconstruction costs are estimated at close to US\$25 billion over five years for only 16 cities and 12 sectors.⁵ About 17.8 million people lack access to safe water and sanitation and 19.7 million lack access to adequate healthcare.⁶ Cholera, diphtheria and other communicable diseases (dysentery, giardia, severe diarrhea) have hit the people in Yemen hard. The suspension of sporadic payment of civil service salaries since 2015, lack of fuel, electricity and operations and maintenance (O&M) financial budget, etc. have further compromised the government's ability to deliver public services. Fragmentation of monetary and exchange policy implementation and segmented banking supervision hindered any cohesive economic policy. Exchange rate volatility and an unprecedented depreciation of the Yemeni Rial has undermined households' purchasing power.

The country has suffered extensive damage to its human capital which will require time and steady resources to undo. A large swathe of the population is food insecure, and over two million children require treatment for acute malnutrition,⁷ causing irreparable damage to human capital. About 4.5 million children were born in Yemen since the escalation of violence in March 2015. An estimated 4.3 million people have fled their homes since the start of the conflict, of which over 3 million remain internally displaced with the numbers rising. The conflict has further limited already fewer opportunities open to women to access economic activities with their mobility and participation in the public domain further curtailed, while a climate of intensified gender-based violence, increased rates of child marriage, and reduced educational opportunities remain pervasive. At the same time, the operating environment for aid delivery is highly constrained, further complicating operational conditions for international agencies on the ground.

With over 24 million people food insecure,⁸ including a staggering 16.2 million people in Integrated Food Security Phase Classification (IPC) Phase 3+ requiring urgent emergency assistance, food insecurity in Yemen is deep rooted. Hunger, food insecurity and malnutrition are among the most pressing and overwhelming challenges faced by the country at present, at a scale that is not being fully met by national authorities and the international development and humanitarian communities. The

⁴ World Bank Republic of Yemen Overview, April 2018

⁵ Yemen Dynamic Needs Assessment, 2020.

⁶ <https://reliefweb.int/report/yemen/yemen-2019-humanitarian-needs-overview-enar>

⁷ Integrated Food Security Phase Classification 2020/2021 analysis for acute malnutrition

⁸ IPC Phase 2 and above.

high dependence on food imports, for most households combined with high food prices and significantly reduced income earning has resulted in low food access.

Socio-economic conditions deteriorated further in 2020, leading to a significant worsening of poverty. Distortions created by the fragmentation of institutional capacity and the divergent policy decisions between the areas of control have further compounded the economic and humanitarian crisis. As a result, anecdotal evidence indicated a likely contraction of the economy from an already low base in 2020. More than 50 percent of the population between the ages of 18 and 24 were unemployed in 2017.⁹ This dramatic deterioration of conditions in Yemen has translated into an estimated 80 percent of the population (around 24 million) living below the poverty line even before the crisis brought about by the coronavirus disease 2019 (COVID-19) pandemic (World Bank 2019). In addition to monetary poverty, up to 80 percent of households experience overlapping monetary and non-monetary deprivations (World Food Program 2020).

The COVID-19 outbreak, flooding, locust infestation and climate-related hazards have further compounded the impacts of the conflict on people and country systems and underscored their vulnerability to shocks. In recent years, the already dire humanitarian situation in Yemen has been exacerbated by multiple and overlapping infectious disease outbreaks such as cholera and dengue. The COVID-19 pandemic has further strained an already weak health and water and sanitation systems. The fatality rate is high, estimated around 25 percent among the severe, hospitalized cases, and COVID-19 initially reduced demand for routine health services such as immunization and maternal care, while school closures have left over six million children out of school, amid soaring food prices. Massive flooding and the threat of locusts has had a devastating effect on food security and livelihoods. In April and August 2020, floods severely impacted more than 100,000 people and displaced thousands. At the same time, Yemen is facing significant cuts to humanitarian assistance despite mounting challenges, with scarce assistance funding diverted to the pandemic.

1.3 Rationale

In line with ESS1, the Project uses an Environmental and Social Management Framework instead of an Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) because the exact nature and location of subprojects under Component 2 of the Project and their impacts are not fully known at the time of Project appraisal. The subprojects will be selected after August 2021, once the Project team can carry out stakeholder consultations for investment selection.

As indicated in ESS1:

The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts. It contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts. It includes adequate information on the area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used.

⁹ UNDP, 2019. Country Programme Document for Yemen, July 2019 to June 2020. <https://erc.undp.org/evaluation/managementresponses/keyaction/documents/download/2284>

1.4 Past experience

The Project builds on the Yemen Integrated Urban Service Emergency Project (YIUSEP I; P164190) that is implemented by UNOPS and includes similar components.

- YIUSEP I implemented 154 subprojects: PWP (81); RMF-IU (25); UWS-PMU (26), and UNOPS implemented 22 electricity sector subprojects including WASH facilities.
- UNOPS put more emphasis on the lessons learned from similar previous work and challenges encountered in identifying remedial measures and actions to be taken in YEHCP project to avoid recurrence of that challenges in the future.
- UNOPS and its Implementing Partners prepared ESMPs for all sub-projects (Level 2)¹⁰, and jointly supervised their implantation by contractors.
- None of the subprojects required the preparation of an ESIA (Levels 3 and 4).
- UNOPS and its Implementing Partners conducted environmental, social, and OHS inspections usually on a weekly basis during subproject implementation. Noncompliance was addressed and corrected immediately by the contractor's team/safety officers.
- Contractor non-compliances included: (i) workers not wearing appropriate PPE; (ii) workers not fully aware of the worker's GRM; (iii) waste and debris not collected immediately and transported to the assigned landfill; (iv) one child labor case with a PWP contractor that was immediately addressed.
- UNOPS and its implementing partners have put more preventive measures in place to avoid recurrence of incidents based on lessons learnt from the previous following incidents:
 - A flagman was slightly injured and treated on the site when he jumped over a footpath to avoid an oncoming car during the maintenance of a solar street light pole in Sana'a City in February 2019. UNOPS immediately conducted an incident review and identified lessons learned; the contractor was warned, and corrective measures taken, including defining safe distance requirements for safety cones, barriers and safety lights.
 - One worker and a relative died in a sewer at a PWP sanitation rehabilitation site in March 2019. UNOPS conducted Root Cause Analysis (RCA), and prepared and implemented a Safeguards Corrective Action Plan (SCAP), including more explicit contractor requirements for work in sewers. PWP terminated the contract. Compensation was paid by the contractor, not by the project.
 - RMF-IU road maintenance in Dhamar City resulted in a death of one person. UNOPS conducted an RAC, and prepared an implemented a SCAP. A warning was issued to the contractor. Compensation was paid by the contractor, not by the project.
- These SCAPS were implemented to the satisfaction of the World Bank, and both UNOPS and the local partners were able to learn from these incidents and enhance their safeguards and OHS practices.

¹⁰ Level 1. Subprojects that are unlikely to have direct or indirect environmental or social impacts. These subprojects do not require safeguards instruments such as clauses for contractors, ESIA's or ESMPs.

Level 2. Subprojects that involve works but do not have impacts beyond generic construction impacts that are managed by contractors. These subprojects will require an ESMP consisting only of a description of the subproject and the Environmental and Social Clauses for contractors. These subprojects might also require an Abbreviated Resettlement Action Plan (ARAP) prepared under the Resettlement Framework.

Level 3. Subprojects that cause no more than three environmental or social impacts. In addition to the Environmental and Social Clauses for Contractors, these subprojects will require an assessment limited to the triggered impacts and will define proportionate and sufficient mitigation measures specific to these impacts. These mitigation measures will be implemented by UNOPS and its implementing partners.

Level 4. Subprojects that trigger significant environmental and social impacts. These subprojects will require a full ESIA and ESMP. They might also require an ARAP or a RAP.

- Complaints received by the GRM included requests to: (i) repair or provide regular maintenance to installed generators or solar systems; (ii) immediately remove waste and debris from working sites; (iii) clean road maintenance and paving sites to ensure proper rainwater drainage; (iv) avoid making noise or generating dust; (v) avoid compromising other services such as electricity, telecommunication, or sanitation. when excavating and securing sites; (vi) maintain access; (vii) to shorten the duration of works affecting streets
- Many of complaints concerned procurement or labor issues, such as delayed payments to contractors, disputes on remaining due payment between contractors, subcontractors, suppliers of construction materials, contractor's engineers and workers and terms of payments.

Most complaints were resolved immediately with the contractors to the satisfaction of the complainants, except for financial disputes between contractors and other parties where UNOPS was not a party. UNOPS advised contractors to solve these complaints amicably. If the complainant was not satisfied, they had the option to go for second level of legal process.

- As a lesson learned from YIUSEP a context and gender-sensitive public communication plan will be devised and rolled out with the start of subproject implementation and throughout project implementation. The goal of this outreach campaign is to ensure the transparency of subprojects' cost, selection rationale, and implementation schedule. The information will also be displayed in the publicly available GIS platform. And this will be complemented by a GRM system to allow citizens to voice grievances related to project activities.
- Citizen communication will also be utilized to encourage beneficiaries to pay for the improved services to enable local providers to sustain these services after project completion; Facilitate citizen engagement in the identification, prioritization and monitoring of investment projects. Various modalities, already used for YIUSEP, will be considered.
- The consultations will include women to enhance their voice in the participatory planning process for investment activities. This will help ensure that restored services meet the specific needs of women.
- Women, girls and children who are the primary beneficiaries of improved services by having more access to improved drinking water and improved wastewater collection and treatment services. Autonomous national and local institutions having partnerships with UNOPS under this component including WUAs Water Users Associations which involve both males and females members will also benefit from technical assistance and investments that will strengthen their performance and improve the services provision, which in turn will improve their social contract with the customers and general reputation in their communities. And UNOPS will engage with female stakeholders more proactively under YEHCP taking in considerations the lessons learned under EHNP Wash component.

Chapter 2.

Project Description¹¹

The World Bank is financing the Yemen Emergency Human Capital Project (YEHCP- P176570), under the provisions of World Bank OP 10.00, paragraph 12, *Projects in Situations of Urgent Need of Assistance or Capacity Constraints*. The Project will be implemented by the United Nations Office for Project Services (UNOPS), the World Health Organization (WHO), and the United Nations Children’s Fund (UNICEF) in which UNOPS will implement Component 2 of the project, in partnership with local Implementing Partners.

The overall objective of YEHCP is to provide essential health, nutrition, water and sanitation services to the population of Yemen.

2.1 Project Components

The Project will be financed through an IDA grant of SDR in an amount equivalent to US\$150 million. The Project will finance the continuity of delivery of Minimum Service Package MSP services and provision of an integrated package of services at primary, secondary, and tertiary health care levels including facility, outreach, mobile, and community (Component 1), whilst supporting the provision of WSS services for the population of Yemen through rehabilitation of medium to large WSS infrastructure, response to COVID-19 and flash floods and strengthening the capacity building of the local water and sanitation institutions at decentralized level (Component 2). The Pre-Appraisal meetings (June 8-9, 2021) allowed for the preparation of the tentative first year investment pipeline under Component 2 of the project, based on technical and sustainability criteria, including: (a) ability to address the unmet needs in targeted cities; (b) impact on COVID-19 response; (c) potential to build resilience to urban flooding; (d) feasibility (considering access to goods and supply, conflict, capacities) and potential of integration with other activities; and (e) potential for local job creation. A core principle is to prioritize investments which offer the greatest value for money and maximize the number of beneficiaries, including vulnerable groups. Based on the lessons learned from YIUSEP I, this is best achieved through a spatially targeted and integrated approach to investments, with multisectoral coordination and participatory identification and planning of interventions. To retain flexibility and adaptability, subproject selection will occur on an incremental basis to respond to changing needs on the ground¹². Notwithstanding the above, fair distribution of resources across the different areas during the two years of Project implementation, is also a key consideration in Project design.

Component 1: Improving Access to Healthcare, Nutrition, and Public Health Services (US\$104.95 million)

Subcomponent 1.1: Improving Access to the MSP at Primary Healthcare Level (implemented by UNICEF – US\$45.19 million equivalent)

This subcomponent will ensure continued delivery of: (i) MSP services at the PHC level through (a) integrated outreach (outreach and mobile teams for the population in remote areas and IDPs); (b) community-based service delivery and referral [CHWs and community midwives (CMWs)]; and (c) PHC facilities (permanent and temporary fixed sites); (ii) cholera preparedness and prevention activities such as, but not limited to, prepositioning of supplies, evidence generation, sustaining and strengthening already-established oral rehydration corners and diarrhea treatment centers (DTCs), and

¹¹ This Chapter is based on the Project description in the Project Appraisal Document (PAD) dated 10 April 2021 that was shared by the World Bank. It is not the final version.

¹² Selection criteria will be further detailed in the Project Operations Manual (POM).

integrating detection and management or referral of suspected cases in all PHC facilities; and (iii) facilitating community engagement and generating demand for health and nutrition services through community sensitization and promoting key healthy behaviors, including individual, household, and community-level hygiene and sanitation practices.

Subcomponent 1.2: Improving Access to Essential Preventive and Curative Nutrition Services (implemented by UNICEF – US\$20.00 million equivalent)

This subcomponent will support the delivery of a package of essential nutrition services. This will include maternal and child nutrition services and will be delivered at PHC facilities and community level through mobile teams and an extensive network of CHNVs. The package will include the following: maternal nutrition: (a) iron-folic acid (IFA) supplementation; (b) regular weight measurement; (c) nutrition counselling on adequate dietary diversity, consumption of adequate quantities of food, importance of compliance of consumption of iron and importance of rest; and (d) deworming after the first trimester. As for child nutrition, the following interventions will be supported: (a) age-appropriate breastfeeding and complementary feeding counselling; (b) growth monitoring and promotion ; (c) vitamin A supplementation; (d) deworming; (e) iron supplementation through multiple micronutrient powders; (f) zinc in the treatment of diarrhea; (g) active case finding and referral of malnourished children under five years, children and malnourished pregnant and lactating women through regular mid-upper arm circumference screening and referral to the nearest treatment facilities [health facilities (HFs) and mobile teams]; (h) treatment of acute malnutrition through Outpatient Therapeutic Centers in high burden areas; and (i) piloting services for adolescents (IFA and social and behavior change communication) in two governorates.

Subcomponent 1.3: Improving Access to the MSP at Secondary and Tertiary Healthcare Level (implemented by WHO - US\$26.25 million equivalent)

his subcomponent will ensure the continuum of care at the first referral centers and hospitals by supporting: (a) management of SAM cases at in-patient Therapeutic Feeding Centers/Stabilization Centers for patients with complications or who failed home-based Outpatient Therapeutic Program; (b) provision of Basic Emergency Obstetric and Neonatal Care (BEmONC) and Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) services in targeted referral centers; (c) management of cholera cases through supporting the DTCs ; (d) screening and case management of non-communicable diseases and its complications including diabetes, hypertension, tumors, and mental health and PSS; (e) sustaining the national capacity of blood banks; and (f) strengthening the capacity of central public health laboratories.

Subcomponent 1.4: Sustaining the National Health System Preparedness and Public Health Programs (implemented by WHO - US\$13.51 million equivalent)

This subcomponent will support nationwide public health programs and measures in the form of: (a) prevention to support nationwide public health campaigns, including vaccination and neglected tropical diseases, to prevent disease outbreaks; (b) Integrated Nutrition Surveillance System (INSS), which is meant to provide ongoing nutrition, health, and food security information to inform decisions in a timely manner; (c) system strengthening and resilience-building measures to support the epidemiological and diagnostic laboratory capacity of the local institutions particularly the reference labs at the governorate level; and (d) maintaining the electronic disease early warning system (eDEWS). In addition, this subcomponent will enhance the preparedness of the public health system to respond to disease outbreaks through supporting nationwide rapid response teams at the district and governorate levels, which will ensure immediate multi-sectoral coordination and response to outbreaks.

Component 2: Improving Access to Water Supply and Sanitation (WSS) and Strengthening Local Systems (implemented by UNOPS - US\$26.24 million equivalent) Subcomponent 2.1: Project Implementation and Management Support

This component aims to support the provision of WSS services for the population of Yemen through

rehabilitation of medium to large WSS infrastructure, response to COVID-19 and flash floods and strengthening the capacity building of the local water and sanitation institutions at decentralized level. The project will help preserve and strengthen the WSS system through supporting, inter alia, procurement and contract management, low carbon and climate resilient infrastructure, technical design, asset management, O&M of WSS facilities for medium and long term, information management, safeguard and leadership capacities of local water and sanitation institutions, etc.

Subcomponent 2.1: Restoring Access and Improving Quality to WSS Services in Selected Urban and Rural Areas (implemented by UNOPS – US\$21.51 million equivalent)

This subcomponent aims to restore access and improve quality to WSS services at decentralized level. It will be implemented by UNOPS in partnership with autonomous national and local water and sanitation institutions e.g., Urban Water – Project Management Unit (UWS-PMU), PWP, respective WSLCs in in selected priority urban and peri-urban areas (that have WWTPs) and local branches of the GARWSP in selected rural areas based on clear and transparent selection criteria. Given the strong linkage between the level of water and sanitation services and environmental and health issues, this subcomponent will focus on restoring access to improved water and sanitation services, with particular emphasis on priority sanitation needs, by investing in related urgent areas (i.e., rehabilitation and scaling up of medium to large scale facilities including rehabilitation of water and sanitation infrastructure, main water and sewerage pipelines and networks, water treatment plants, WWTPs, water wells, pumping and booster stations, related civil works of building and structures, etc.) to improve service provision. The subcomponent will help monitor the quality of water and sanitation services through rehabilitation of public laboratories for water and wastewater quality testing and enhancing and strengthening the operational capacities of the WSLCs and their branches, AUs, branches of NWSA and GARWSP in the target areas in the delivery of safe water and sanitation services (e.g., installing small decentralized WWTPs on a pilot basis, purchase and use electrical generators; purchase, installation and storage of O&M materials such as; spare parts, measuring devices, manholes, sewage maintenance vehicles, machines, tools, laboratory equipment and consumable supplies. In addition, this subcomponent will support the operation of main water and wastewater facilities by providing electrical materials (e.g. submersible motor and control panel, transformers, etc.) and alternative sustainable energy solutions, in particular, solar panels to provide a clean, cost effective, and reliable energy source for disadvantaged areas.

Subcomponent 2.2: Emergency Support for WASH Interventions in Response to COVID-19 Pandemic and Flash Floods (implemented by UNOPS – US\$4.37 million equivalent)

This subcomponent aims to respond to COVID-19 Pandemic and the impact of flash floods at decentralized level and will be implemented by UNOPS in partnership with the autonomous national and local institutions (UWS-PMU, PWP), respective WSLCs and their branches, AUs and branches of NWSA and GARWSP to improve their readiness and capacities to respond to COVID-19's possible impact and other infectious diseases (e.g., cholera). This subcomponent will focus on selected priority urban, peri-urban and rural areas at decentralized level including IDP camps, health centers, schools and local markets, through addressing basic needs of WASH requirements and supplies; providing personal protective equipment (PPE) and WASH non-food items (NFIs) for water and sanitation staff, water trucking to key health facilities, IDP camps, provide fuel to key WSLCs (if needed), spare parts, equipment and necessary supplies for the benefit of the priority areas for water and wastewater systems (where it is not included under subcomponent 2.1). It will also carry out wastewater evacuation through water sucking (evacuation) trucks building or repairing bathrooms in public areas to encourage appropriate hand washing and behavior changes on hygiene in close coordination with UNICEF, constructing and operating of water distribution points and water tanks, water pumps to help the vulnerable communities better adapt to the climate change shocks and risk from natural disasters such as droughts (by increasing water availability) and floods (improved water pumping and wastewater treatment).

Rehabilitation of selected HFs and schools will be conducted based on clear and transparent criteria

including access to a sustainable water source, community organization to take over and oversee the functionality once rehabilitation has been completed, ensuring integration of rehabilitation interventions including WASH, Health etc. based on detail need assessment etc. WASH rehabilitation may include rehabilitation of water and sanitation systems within facilities premises, connection of water and sanitation system of the facilities to the nearest public networks, cleaning of toilet tiles and walls, provision of water tank, water pipes/pumps/taps, handwashing basin, installation of solar system etc. Water Trucking to Key HFs and Fuel supply to key WSLCs will be provided as transition emergency interventions and will build on the results achieved from the exit strategies implemented under YEHNP toward having more sustainable interventions. Water quality will be addressed at water sources, distribution points, tanker trucks, and HH levels through testing water quality for public and privet providers. The capacity of WSLCs will be strengthening through rehabilitation of laboratories, provision of key equipment and enhancing the capacity of the local staff on water quality monitoring, analyzing, and reporting. As part of community participation, active Water User Associations (WUAs) and /or District Local Authorities (DLAs) especially those having women on the management committee will be involved in identification of priorities, implementation of activities and O&M of projects whenever possible to ensure ownership of the rehabilitated system, and sustainability of service delivery and investments. Furthermore, this subcomponent will consider a combination of sewerage network and non-network solutions whenever possible to ensure maximizing the impact and would, among others, adopt the prioritization tools developed under the Bank's City-Wide Inclusive Sanitation (CWIS).

Subcomponent 2.3: Enhanced Capacity Building of Water and Sanitation Institutions at the Local Level (implemented by UNOPS – US\$0.35million equivalent)

This subcomponent aims to strengthen the resiliency of key local WSS institutions at decentralized level. Because the capacity building for the local institutions in urban areas will be covered under the Yemen Integrated Urban Services Emergency Project (YIUSEP-II) implemented by UNOPS¹³, this subcomponent will mainly target strengthening the capacity of local institutions in selected peri-urban, rural areas and WSLCs in urban cities and their branches in peri-urban areas that are not covered under YIUSEP-II. This includes training on technical and non-project-related aspects (including planning around when it is most convenient for women to join) to support the local institutions to assume their service delivery mandate more effectively beyond the boundaries of the project. The support may include provision of per diem to key staff if needed based on clear terms of reference (ToR) with associated deliverables and clear timelines. Support will build medium and long-term capacity at the local level and cover topics including procurement and contract management, social and environmental standards, low carbon and climate resilient infrastructure, technical design, asset management, grievance redress and gender-sensitive citizen engagement, building WSLCs capacity on gender parity in recruitment, the advantages of gender diversity in the workplace, etc., and other critical needs which may be identified.

Component 3: Project Support, Management, Evaluation and Administration (implemented by UNICEF, WHO, and UNOPS – US\$18.81 million equivalent)

This component will support the implementation, administration, management, monitoring and evaluation, and environmental and social aspects of the Project, including: (a) Direct Cost; (b) Indirect Cost; (c) provision of consultancy services required for Project monitoring, evaluation and coordination at local level; (d) conducting independent audits of Project activities; (c) audit; (d); Third-Party Monitoring; and e) Supporting the provision of technical assistance on system strengthening and service delivery improvement.

¹³ With the objective on complementarity and integration of WASH interventions and make best use of fund, the capacity building plan has been prepared under the new urban project (YIUSEP-II) based on detail consultation with UNOPS and Local Partners. The plan includes cross-sectoral training for water, transport, energy sectors, etc. as well as specific training activities for local institutions of each sector at decentralized level.

UNOPS will engage a Third-Party Monitoring (TPM) agent to undertake independent results verification of subprojects funded under the Project's Component 2. The TPM agent will include female staff. On a quarterly basis, the TPM agent will report on the activity outputs, improving access to WASH services for the intended beneficiaries, and the fiduciary and safeguard processes followed by the local partners. The Terms of Reference (TORs) for the TPM agent will be developed by UNOPS and agreed upon with the World Bank.

Component 4: Contingent Emergency Response (implemented by UNICEF, WHO, and UNOPS – US\$0)

The objective of this component is to support the country's response capacity in the event of an emergency, following the procedures governed by OP 10.00 paragraph 12 (Rapid Response to Crises and Emergencies). There is a possibility that, during Project implementation, a natural disaster, epidemic or another emergency may occur, which would cause a major adverse economic and/or social impact. In anticipation of such an event, the Contingent Emergency Response Component (CERC) allows UNOPS to receive support by reallocating funds from other Project sub-components or serving as a conduit to process additional financing from other funding sources for eligible emergencies to mitigate, respond to and recover from the potential harmful consequences arising from the emergency. Disbursements under this component will be subject to the declaration of emergency by the RoY, the international community or the UN, and an Emergency Response Operational Manual will be prepared jointly and agreed upon with the World Bank to be used if this component is triggered.

2.2 Project Beneficiaries

The project is a nationwide intervention and thus the project activities have no specific geographical targeting. All activities will be guided by the security situation of each governorate. Areas with ongoing conflicts will be reached once the security situation allows and the service delivery can be ensured. Similarly, the package of services will vary among governorates based on the population's health and WASH needs and the implementation capacity of the existing local providers.

Based on the proposed activities, the project is expected to: (a) reach 2.96 million people in Yemen with essential health, nutrition and population services; (b) train 8,000 health personnel; and (c) establish disease surveillance and early warning system for cholera and other outbreaks in 300 new sites. In addition, cholera suspected cases will be managed, and the entire population will be targeted for health education messages as well as for public health programs for polio, cholera, malaria, schistosomiasis, and trachoma which will be integrated within the package to sustain the service delivery.

The primary beneficiary of the WASH component will be the residents of the selected urban, peri-urban¹⁴ and rural areas in Yemen (850,000¹⁵), including IDPs, marginalized groups such as women, girls and children¹⁶ who are the primary beneficiaries of improved services by having more access to improved drinking water and improved wastewater collection and treatment services. Autonomous National and local institutions having partnerships with UNOPS under this component and their staff will also benefit from technical assistance and investments that will strengthen their performance and improve the services provision, which in turn will improve their social contract with the customers and

¹⁴ For reporting the actual beneficiaries reached as part of the WASH indicators, people reached in peri-urban areas will be counted as part of the urban beneficiaries.

¹⁵ Figures to be disaggregated by sex.

¹⁶ According to UN statistics women (especially female head of households) and children constitute [76 percent of the displaced population](#) in Yemen. More than half (52%) of displaced people live in female-headed households.

Source:

https://reliefweb.int/sites/reliefweb.int/files/resources/yemen_humanitarian_needs_overview_hno_2018_20171204_0.pdf

general reputation in their communities. The Technical assistance includes training package that will be delivered under the Capacity building subcomponent. With potential support from the CWIS of the World Bank, need assessment may be conducted to assess the actual capacity needs of local institutions at decentralized level.

Chapter 3.

Institutional and Implementation Arrangements

The Project is an emergency operation processed under OP 2.30 and OP 10.00 paragraph 12. It uses UNOPS as the recipient of IDA funds and alternative implementation agency on an exceptional basis under the Financial Management Framework Agreement (FMFA) between the World Bank and UN agencies. The financial management arrangements will be governed by the FMFA, which provides for the use of the UN's Financial Regulations. UNOPS will follow its own procurement procedures as Alternative Procurement Arrangements allowed by the World Bank's Procurement Framework Policy Section III.F.

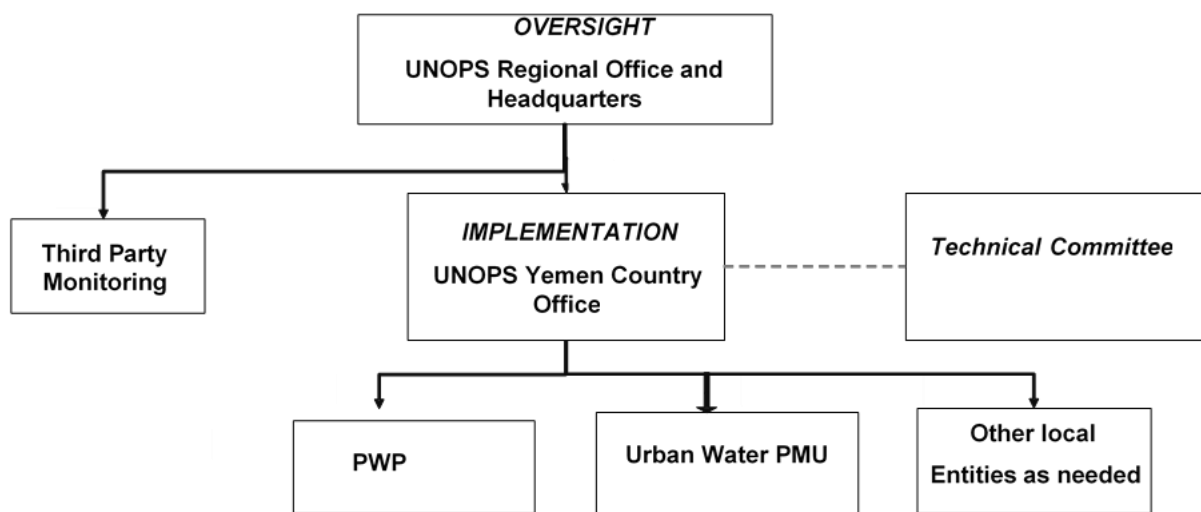
The project was designed to complement existing WBG emergency operations in Yemen, and to become an integral part of the World Bank emergency response for Yemen. The project also complements the Yemen Integrated Urban Services Emergency Project (YIUSEP; P172979) and Yemen Emergency Crisis Response Project (ECRP; P159053) that focus on improving livelihoods, infrastructure, and services restoration in urban and rural areas.

The Project is designed to work directly with independent local institutions, such as PWP and UWS-PMU, as implementers for the benefit of local communities and local service providers such as Local Water and Sanitation Corporations.

3.1 UNOPS

Component 2 of the project will be implemented by UNOPS through direct implementation as well as project cooperation agreements between UNOPS and two local Implementing Partners: (i) the Public Works Project (PWP) and (ii) Urban Water and Sanitation Project Management Unit (UWS-PMU). UNOPS will: (a) take responsibility for project implementation; (b) monitor the project targets and results including environmental and social safeguards implementation in coordination with the local partners; (c) handle relevant procurement, financial management, and disbursement management including the preparation of withdrawal applications under the project; and (d) ensure that all reporting requirements for IDA are met per the Project Financing Agreement. Figure 2 below describes the project governance and management structure to be put in place under the project.

Figure 1. Project Governance and Management Structure



The UNOPS office in Sana'a hosts a project management and implementation support team consisting of projects senior management team (project manager, procurement specialists, finance specialists, an Environmental and Social Safeguards Officer (ESSO), a Gender Mainstreaming Officer, 2 Health and Safety Officers, a logistics officer, and an administrative officer.) Will share their efforts insuring fulfilling the WB and UNOPS requirements in managing and supervising YEHCP and YIUSEP II implementation teams (the implementation teams are composed of several groups such as the procurement officers and associates, and finance associates and officers, and team of retainers supporting the ESSO).

. UNOPS has a regional office and hub in Amman, Jordan, that provides as well support and advice as needed. The hub also hosts a Regional Oversight and Management Advisor that oversees the operations in the region and provides management advice to the Regional Director and HSSE specialist to provide HSSE support. The Regional Office is also supported by the UNOPS headquarters based in Copenhagen, Denmark, which provides global corporate oversight and program support.

3.1.1 TPM

UNOPS shall recruit a Third-Party Monitoring (TPM) agent (composed of international audit firm and an experienced technical firm) to undertake independent results verification of subprojects including verification of environmental and social safeguards implementation funded under the project, on the basis of ToRs developed by UNOPS and approved by the World Bank.

3.1.2 ESMF Implementation

UNOPS is responsible for the overall implementation of the ESMF. More specifically UNOPS will ensure that:

- sub-projects are screened for environmental and social risks and impacts and site specific ESIA's and ESMPs are prepared in a timely manner, as needed.
- tender documents and construction contracts include effective and enforceable contractual clauses to manage environmental and social risks and impacts
- no activities start before the required environmental and social risks and impact management measures are in place
- the environmental and social performance of contractors at all times meets the Project's environmental and social requirements.

The ESSO will be supported by a part-time international expert, who will assist in the management, monitoring and reporting of environmental and social risk management aspects throughout project implementation.

In addition, the Implementing Partners (PWP and UWS-PMU) will each designate an ESSO and a Health and Safety Officer, who will monitor and control the on-site environmental and social performance at subproject level and report to UNOPS.

3.2 Implementing Partners

While retaining overall responsibility for implementation, fiduciary and safeguards aspects of Component 2 of the project, UNOPS will work with local partners for the implementation of Component 2 activities. These local partners have been created through World Bank and other international donor interventions, have years of experience in implementing IDA investments, and have a strong implementation record under YIUSEP. During the crisis, they have continued to support the implementation of donor-funded projects, leveraging their sector-specific knowledge, relationships with local entities, and on-the-ground experience. They have a good track record of successfully implementing safeguards requirements, in compliance with World Bank policies. Despite the conflict, these project management units have improved their safeguards capacities through YIUSEP and several capacity building and training programs. Given that they have not yet implemented projects under the ESF, UNOPS will ensure appropriate training, as indicated in Section 9.5 of this ESMF.

3.2.1 Public Works Project (PWP)

The World Bank and other regional, bilateral, and international development agencies have funded and supported PWP since its inception in 1996. Between 1996 and 2015, PWP implemented 5,149 projects in about 11,200 villages and 1,300 urban neighborhoods, totaling an estimated US\$648 million. PWP has played a significant role in improving poor communities' access to education, water, sanitation, roads, and irrigation, among other services. Bank experience with PWP has shown that the organization has a good reputation for fiduciary due diligence, effective delivery of results and political neutrality. PWP, currently, is playing an important implementation role for implementing the Tertiary Municipal Services subcomponent of the YIUSEP. Its performance has been very satisfactory. PWP is headquartered in Sana'a with nine regional offices and a current core staff of 53.

3.2.2 Urban Water Project Management Unit (UWS-PMU)

The UWS-PMU has implemented several water supply and sanitation projects in Yemen. It was established in 2002 as a financially and administratively independent PMU to manage all activities related to the implementation of the World Bank Urban Water Supply and Sanitation Adaptable Program Loan (P057602). During the implementation of this project, the UWS-PMU attracted funds from various donors. It had implemented projects including 1,000 km of water supply networks, 250 km of sewer lines, reservoirs with a total capacity of 40,000 m³, three wastewater treatment plants, drilling and construction of 65 production and investigation boreholes and several emergency rehabilitations works. The UWS-PMU is the local Implementing Partner for the Urban Water and Sanitation subcomponent of the YIUSEP. It is based in Sana'a and Aden PMUs and has close working relationships with LCs.

3.3 Other National Stakeholders

3.3.1 Local Water and Sanitation Corporations (LCs)

Local Water and Sanitation Corporations (LCs) are decentralized, corporatized and commercialized utilities established under Cabinet Decree 237 of 199, which serve the main cities and secondary towns in a given governorate. By law, LCs' Boards are responsible for all aspects of service development and provision in their area, including design and construction of water supply systems and their subsequent ownership, operation and monitoring, as well as tariff setting.

Prior to the escalation of the conflict, 23 LCs and 10 annexed autonomous utilities (AUs) had been established, and their service areas covered about 50 percent of the country's urban population, with the rest covered by private tankers. LCs provide services to large cities whereas AUs are utilities in secondary towns of the same governorate.

UNOPS will ensure that implementation activities under Component 2 shall be in full cooperation and collaboration with respective LCs.

3.3.2 Local Councils

Local councils are the administrative body which have been elected by the local community for each governorate/ directorate. They cooperate with governmental offices in implementing, operating and supervision of projects. They approach donors for financing the demanded projects and facilitate handing over the different important infrastructure services projects to the related ministry office.

3.3.3 Civil Society Organizations (CSOs)

There are over 12,000 registered CSOs in Yemen, but only a few hundred CSOs have the capacity and resources to fulfill their mandates. As a consequence, UNOPS will be selective in engaging CSOs with the Project activities.

Nonetheless, Component 2 of the Project and starting with the first year of implementation, the Project will expand to include additional activities that will be based on community priorities identified through citizen engagement mechanisms and the community validation of investment options.

UNOPS will implement these activities by engaging Civil Society Organizations or other relevant technical experts, as needed.

3.4 The World Bank

The World Bank will closely coordinate with UNOPS for the implementation and overall oversight of the of site-specific environmental and social risk management instruments, e.g., ESMPs and RAPs to ensure that their scope and quality are satisfactory to the Bank.

The World Bank will also monitor the implementation of the different prepared instruments through regular supervision missions (which will include an environmental and/or social specialist) during which document reviews, and site visits and spot-checks by TPM will be conducted as needed.

3.5 Project Technical Coordination Committee (TCC)

Specific to Component 2 of the project and to facilitate the investment planning process and ensure cross-sectoral coordination, UNOPS will chair a TC composed of representatives from the local partners (PWP and UWS-PMU). Other members will be engaged during the project, if needed. The World Bank will join the TC as an observer. The TC will play an advisory role and will meet periodically and on an as needed basis. Its main tasks will include a) conducting a periodic review of project implementation progress and providing recommendations for improvement, as necessary; b) reviewing proposed sub-projects for the yearly investment plans and recommending a shortlist; and c) strategically communicating the project and its investments to other donors and stakeholders.

Chapter 4.

Legal and Regulatory Framework

This ESMF is prepared to:

- (i) meet the requirements of the World Bank's Environment and Social Standards (ESS), including the World Bank Group Environment, Health and Safety (EHS) Guidelines, and other guidelines and guidance; and,
- (ii) comply with national environmental and social laws and regulations.

4.1 World Bank Requirements

4.1.1 World Bank Environmental and Social Framework

The World Bank Environmental and Social Framework (ESF) sets out the World Bank's Commitment to sustainable development. It includes a set of ten Environmental and Social Standards that establish the mandatory requirements that the Borrower and the projects must meet through the project life cycle:

- **Environmental and Social Standard 1.** Assessment and Management of Environmental and Social Risks and Impacts
- **Environmental and Social Standard 2.** Labor and Working Conditions
- **Environmental and Social Standard 3.** Resource Efficiency and Pollution Prevention and Management
- **Environmental and Social Standard 4.** Community Health and Safety
- **Environmental and Social Standard 5.** Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- **Environmental and Social Standard 6.** Biodiversity Conservation and Sustainable Management of Living Natural Resources
- **Environmental and Social Standard 7.** Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities
- **Environmental and Social Standard 8.** Cultural Heritage
- **Environmental and Social Standard 9.** Financial Intermediaries
- **Environmental and Social Standard 10.** Stakeholder Engagement and Information Disclosure.

All of the above standards are relevant to the Project, except for ESS7 and ESS9. The standards establish objectives and requirements to avoid, minimize, reduce and mitigate environmental and social risks and impacts, and to compensate for or offset any residual impacts. In the context of YEHCP-Component 2, UNOPS shall address the Component 2 environmental and social risks as part of the environmental and social assessment process, in accordance with ESS1. ESS2–10 set out the obligations of UNOPS in identifying and addressing environmental and social risks and impacts that may require particular attention.

4.1.2 Environment, Health and Safety Guidelines

The ESF also requires all projects to apply the relevant requirements of the World Bank Group Environmental, Health and Safety Guidelines (EHSGs)¹⁷. These are technical reference documents, with general and industry specific examples of Good International Industry Practice (GIIP). They define acceptable pollution prevention and abatement measures and emission levels in World Bank

¹⁷ A complete list of industry-sector guidelines can be found at: www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines.

financed projects.

The EHSGs contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHSGs to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them.

The application of the Guidelines to existing facilities may involve the establishment of site-specific targets with an appropriate timetable for achieving them. The environmental assessment process may recommend alternative (higher or lower) levels or measures, which, if acceptable to the World Bank, become project - or site-specific requirements.

If less stringent levels or measures than those provided in the EHSGs are appropriate, in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment. When host country regulations differ from the levels and measures presented in the EHSGs, projects are expected to achieve whichever is more stringent.

In the context of YEHCP-Component 2, UNOPS will use the General EHSGs¹⁸, the Water and Sanitation EHSGs¹⁹, and the Waste Management Facilities EHSGs. The General Guidelines cover environmental, occupational health and safety, and community health and safety related risks. Section 1.6 of the General Guidelines covers Waste Management

4.1.3 Environmental and Social Risk Classification

The World Bank classifies all projects into one of four classifications: High Risk, Substantial Risk, Moderate Risk or Low Risk. This classification takes into account relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the Borrower (including any other entity responsible for the implementation of the project) to manage the environmental and social risks and impacts in a manner consistent with the ESSs. Other areas of risk may also be relevant to the delivery of environmental and social mitigation measures and outcomes, depending on the specific project and the context in which it is being developed. These could include legal and institutional considerations; the nature of the mitigation and technology being proposed; governance structures and legislation; and considerations relating to stability, conflict or security.

The World Bank has classified the environmental and social risks of YEHCP as substantial. It will review the risk classification on a regular basis during implementation, and will change the classification where necessary, to ensure that it continues to be appropriate. Any change to the classification will be disclosed on the World Bank's website.

4.1.4 Environmental and Social Management Framework

The ESMF examines the risks and impacts when a project consists of series of subprojects, and their risks and impacts cannot be determined until the subproject details have been identified during implementation. The ESMF:

- sets out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts of subprojects
- contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the

¹⁸ https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/

¹⁹ <http://www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines>

agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts

- includes adequate information on the area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used.

In the context of YEHCP-Component 2 and given the conflict circumstances, the World Bank will review and approve all instruments prepared under the ESMF.

4.1.5 Labor Management Procedures

Under ESS2 on Labor and Working Conditions, UNOPS is required to develop labor management procedures (LMP) for YEHCP-Component 2. The LMP was prepared as a standalone document according to the established template.

The purpose of the LMP is to facilitate planning and implementation of the project's Component 2. The LMP identifies the main labor requirements and risks associated with the Component 2, and help UNOPS determine the resources necessary to address Project labor issues. The LMP is a living document, which is initiated early in Project preparation, and is reviewed and updated throughout the development and implementation of the project.

A concise and up to date LMP will enable different project-related parties, for example, staff of the project implementing unit, contractors and sub-contractors and project workers, to have a clear understanding of what is required on a specific labor issue. The level of detail contained in the LMP will depend on the type of project and information available. Where relevant information is not available, this should be noted and the LMP should be updated as soon as possible.

In preparing and updating the LMP, Borrowers refer to the requirements of national law and ESS2 and the Guidance Note to ESS2 (GN).

4.1.6 Stakeholder Engagement Plan

In the context of YEHCP, UNOPS, in consultation with the World Bank, have developed and will implement a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of Component 2 of the project and its potential risks and impacts. The SEP must:

- Describe the timing and methods of engagement with stakeholders throughout the life cycle of the project, distinguishing between project-affected parties and other interested parties.
- Describe the range and timing of information to be communicated to project-affected parties and other interested parties, as well as the type of information to be sought from them.
- Take into account the main characteristics and interests of the stakeholders, and the different levels of engagement and consultation that will be appropriate for different stakeholders.
- Set out how communication with stakeholders will be handled throughout project preparation and implementation.
- Describe the measures that will be used to remove obstacles to participation, and how the views of differently affected groups will be captured. Where applicable, the SEP will include differentiated measures to allow the effective participation of those identified as disadvantaged or vulnerable. Dedicated approaches and an increased level of resources may be needed for communication with such differently affected groups so that they can obtain the information they need regarding the issues that will potentially affect them.

When the stakeholder engagement with local individuals and communities depends substantially on community representatives, UNOPS will make reasonable efforts to verify that such persons do, in fact, represent the views of such individuals and communities, and that they are facilitating the communication process in an appropriate manner.

The SEP for YEHCP is a standalone document that is disclosed separately.

4.1.7 Grievance Mechanism

ESS10 requires that UNOPS propose and implement a grievance mechanism to receive and facilitate resolution of concerns and grievances of project-affected parties related to the environmental and social performance of the project in a timely manner.

The grievance mechanism required by ESS10 must *be proportionate to the potential risks and impacts of the project and will be accessible and inclusive. Where feasible and suitable for the project, the grievance mechanism will utilize existing formal or informal grievance mechanisms, supplemented as needed with project-specific arrangements.*

- *The grievance mechanism is expected to address concerns promptly and effectively, in a transparent manner that is culturally appropriate and readily accessible to all project-affected parties, at no cost and without retribution. The mechanism, process or procedure will not prevent access to judicial or administrative remedies. The Borrower will inform the project-affected parties about the grievance process in the course of its community engagement activities, and will make publicly available a record documenting the responses to all grievances received*
- *Handling of grievances will be done in a culturally appropriate manner and be discreet, objective, sensitive and responsive to the needs and concerns of the project-affected parties. The mechanism will also allow for anonymous complaints to be raised and addressed.*

4.1.8 Environmental and Social Commitment Plan

In the context of YEHCP, UNOPS developed jointly with WHO and UNICEF and will implement an Environmental and Social Commitment Plan (ESCP), which sets out the measures and actions required for the project to achieve compliance with the ESSs. The ESCP forms part of the legal agreement.

The ESCP took into account the findings of the environmental and social assessment, the World Bank's environmental and social due diligence, and the results of engagement with stakeholders. It is an accurate summary of the material measures and actions required to avoid, minimize, reduce or otherwise mitigate the potential environmental and social risks and impacts of the project. A completion date for each action is specified in the ESCP.

UNOPS will diligently implement the measures and actions identified in the ESCP in accordance with the timeframes specified, and will review the status of implementation of the ESCP as part of its monitoring and reporting.

UNOPS will notify the World Bank promptly of any proposed changes to the scope, design, implementation or operation of the project that are likely to cause an adverse change in the environmental or social risks or impacts of the project. The updated ESCP will be disclosed.

4.1.9 Information Disclosure

The World Bank requires that all documents provided to it by UNOPS meet the requirements of the World Bank Policy on Access to Information.

The World Bank will require UNOPS to provide sufficient information about the potential risks and impacts of the project for UNOPS' consultations with its stakeholders. Such information will be disclosed in a timely manner, in an accessible place, and in a form and language understandable to project-affected parties and other interested parties as set out in ESS10, so they can provide meaningful input into project design and mitigation measures.

The World Bank will disclose documentation relating to the environmental and social risks and impacts of YEHCP. This documentation will reflect the environmental and social assessment of the project, and be provided in draft or final form (if available). The documentation will address, in an adequate manner, the key risks and impacts of the project, and will provide sufficient detail to inform stakeholder engagement and World Bank decision making. Final or updated documentation will be disclosed when available.

4.1.10 Contingent Emergency Response Components (CERC)²⁰

The World Bank requires all activities financed through the CERC to meet ESF requirements, keeping in mind that this requirement only applies once the CERC is triggered. An Emergency Response Operational Manual will be prepared jointly and agreed upon with the World Bank to be used if this component is triggered. CERC activities will rely as much as possible on the Project's environmental and social instruments.

If the CERC is activated, the World Bank will advise UNOPS on the following elements:

- Confirming which activities can proceed on the basis of the provisions of the CERC-ESMF, with no additional environmental or social assessment, and which ones require assessment (and at what level) prior to being initiated.
- Rapidly assessing the environmental and social baseline of the planned CERC activities and locations based on readily available information.
- Determining the sequencing and implementation plan for:
 - Mobilizing technical assistance and funding to prepare any additional safeguard instruments, e.g., Environmental and Social Management Plan, Resettlement Action Plan, etc.
 - Preparing the safeguards instruments and carrying out their Bank review, revisions, clearance, and approval.
 - Consultations and disclosure.
 - Establishing roles and responsibilities for safeguards implementation, and monitoring.
 - Estimating the costs for safeguards preparation and implementation.

In the event that CERC activities exceed the scope of the original PDO and thus this ESMF, UNOPS might be called on to prepare a supplemental CERC-ESMF as part of an eventual Project restructuring. The CERC-ESMF would include a screening process for the potential activities, the institutional arrangements for environmental and social due diligence and monitoring, any needed capacity-building measures, and generic guidance on emergency small-scale civil works. It would also indicate which kinds of emergency response actions can proceed with no additional environmental or social assessment, and which ones would require assessment (and at what level) prior to being initiated. It may also identify trade-offs, where required short-term responses could create longer-term risks that need to be managed.

Given the uncertainties and rapid changes inherent in emergency situations and responses, the CERC-ESMF would be built around a flexible, “adaptive management” approach, i.e., with emphasis on monitoring of key outcomes and mechanisms to feed information rapidly and effectively into decision-making and management.

UNOPS will use the same institutional framework and the same screening process and criteria for the CERC as for the other Project components.

4.2 UNOPS Requirements

UNOPS is in the process of developing a comprehensive set of environmental and social safeguards that will be applicable to all of the Projects it implements. The safeguards will be based on the Model Approach to Environmental and Social Standards for UN Programming²¹. The Model Approach represents a key step in moving towards a common approach among UN entities for addressing environmental and social standards for UN programming.

UNOPS has already adopted a policy on Health & Safety and Social & Environmental (HSSE) Management, and developed a General Environmental Management (GEM) Guidelines²², a General

²⁰ This section is based on Paragraphs 17 of the World Bank Guidance on Contingent Emergency Response Components (CERC) (16 October 2017)

²¹ https://unemg.org/wp-content/uploads/2019/07/FINAL_Model_Approach_ES-Standards-1.pdf

The 6 UNOPS Environmental Management Guidelines are:

Health and Safety (GHS) Guidelines²³, and accompanying templates. It has also set up an HSSE Unit based in Copenhagen.

When applied to contractors, the GEM and GHS can provide clear and comprehensive instructions to contractors, particularly regarding work safety issues. The templates accompanying the guidelines are practical and can easily be operationalized. Overall, the guidelines are more than equivalent with the EHS Guidelines where they overlap.

The available UNOPS guidelines do not yet cover certain critical issues, such as Labor Management, Sexual Exploitation and Sexual Harassment (SE/SH), Community Health and Safety, and Stakeholder Engagement and Disclosure. They are also not yet publicly available. In addition, although the UNOPS guidelines are referenced in the bidding document for the contracts that UNOPS manages, they are generally not included as technical clauses of contracts. As a consequence, UNOPS will default for the purpose of this Project to a set of Environment, Social (including labor), health, and safety requirements derived from World Bank requirements and guidelines (see Annex 5) that UNOPS will include as technical clauses in the contracts they prepare for this Project. The option is available for UNOPS to use some of their procedures at the operational level, where they go beyond Bank requirements.

4.3 National Requirements and Policies

The Republic of Yemen (RoY) has drafted policies, developed sectoral legislation and implementation procedures, established institutions responsible for environmental management, and joined international conventions. The ongoing conflict has considerably weakened the capacity of the assigned institutions to implement policies and existing laws. **As a consequence, the use of Yemen's environmental and social management framework is not considered for the Project.**

4.3.1 National Environmental Action Plan

The foundational document for environmental management in Yemen is the National Environmental Action Plan (NEAP) that the ROY prepared in 1995, with the support of the UNDP and the World Bank. The NEAP defines priority actions regarding key environmental issues such as water resources, land resources, natural habitats, and waste management.

4.3.2 Environmental Protection Law

The Environmental Protection Law (Law 26/1995; EPL), was enacted in 1995 in the wake of the

GEM 01	Generic Register of Environmental Impacts
GEM 02	Waste Management and Hazardous Substances
GEM 03	Protection of Water
GEM 04	Wastewater
GEM 05	Borrow Pit Management
GEM 06	Preservation of Historical, Archeological and Cultural Remains.

The 14 UNOPS Health and Safety Guidelines are:

GHS 01	General Site Rules
GHS 02	Lifting
GHS 03	Electrics
GHS 04	Excavation
GHS 05	Fire Safety
GHS 06	Noise
GHS 07	Scaffold
GHS 08	Underground Services
GHS 09	Working at Heights
GHS 10	Significant Accident or Incident Response
GHS 11	Confined Space
GHS 12	Site Establishment
GHS 13	Welfare Facilities
GHS 14	Construction Camp.

NEAP. It constitutes the framework environmental legislation for Yemen, including provisions for environmental protection, the issuance of permits, and the requirement to prepare Environmental Impact Assessments (EIAs). The provisions of the law are implemented through By-Law 148/000.

The law is also designed to: (i) incorporate environmental considerations in economic development plans at all levels and stages of planning, (ii) protect the national environment from activities practiced beyond national boundaries, and; (iii) implement international commitments ratified by the RoY in relation to environmental protection, pollution control, the conservation of natural resources, and global environmental issues such as the depletion of the ozone layer depletion and climate change.

Environmental Protection Authority²⁴

The EPL established an Environmental Protection Council (EPC) and granted it power to take all measures necessary to protect and improve the quality of environment and to prevent pollution of the environment. Decree 101/2005 established the Public Environmental Protection Authority (EPA) to replace the EPC and lays down its objectives, tasks and management. The functions assigned to the EPA include:

- preparing and executing appropriate policies/strategies/plans to protect the environment
- conducting environmental surveys
- assessing areas/resources/species to be protected through necessary measures conserving the ecosystem including flora and fauna, wild and marine life as per existing laws and monitoring their application
- developing legislative proposals for environment protection in coordination with other agencies involved
- developing a National Emergency Plan to combat natural disaster and environmental pollution in consultation with the agencies concerned implementing environmental protection law and other relevant laws/regulations
- reviewing EIA studies for public /private sector projects for giving clearance and monitoring their execution
- coordinating relevant programs/activities with national, regional and international agencies and organizations
- recommending necessary laws, regulations and systems to protect the environment, in accordance with regional and international agreements on environmental protection.
- collecting data, assessing and evaluating the status of the environment, and setting up suitable monitoring systems
- laying down appropriate standards for protecting the environment from pollution and formulating policy guidelines to combat industrial pollution and protect animal, plant and marine ecology

Environmental Impact Assessments

The EPL requires the preparation of EIAs for projects proposed by the public and private sectors. The proponent is responsible to undertake the EIA, but the report may be prepared by the proponent or the competent authority or both. Line ministries and Government bodies commission EIA studies at the request of funding agencies and seek the advice of the EPA.

The EPA is responsible for implementing screening procedures, assisting in scoping, evaluation and approval of the Environmental Impact Statement (EIS). However, there is still no regulatory framework to support the implementation of the EPL and the provision of undertaking EIAs for projects is not strictly enforced, particularly for project that are not internationally funded.

Given the current context, modifications to the EIA procedures are not expected during the project.

²⁴ The information regarding the Environmental Protection Authority is purely indicative, as the EPA will not play any role during Project implementation.

Current procedures will be taken into account, but there is no expectation at this point that the EPA will review the Project's safeguard instruments.

National Environmental Standards and Specifications

The former Environment Protection Council (EPC) issued environmental standards and specifications as annexes to the Executive Regulations, covering potable water quality, wastewater quality for agriculture, and ambient air quality, emissions, noise, biodiversity and protected areas. These include standard application forms intended for use by all relevant government bodies.

The EPC has released draft standards for wastewater quality and air quality but a comprehensive set of standards is not yet available. In their place international standards, primarily those of the World Health Organization (WHO) are used.

Decree 148/2000 sets permissible limits for pollutants for use by all government bodies (see Annex 2).

4.3.3 Water Law²⁵

The Water Law (Law 33/2002, updated by Law 41/2006)) regulates water supply and sanitation. The structure of water sector institutions consists of two national-level ministries (MoWE and MAI) and an intermediate-level water authority (NWRA). According to the amended water law and its by-law, the MoWE/NWRA are jointly responsible for organizing and developing water resources. The MAI is responsible for formulating policies and legislation that regulate the use of the irrigation water in line with the national water policies and plans and under the umbrella of the National Water Sector Strategy and the Investment Program (NWSSIP). The MoWE is the lead ministry for the oversight of water resources and water service provision, including in rural areas. The MoWE also supervises local water companies/corporations (public utilities) and all water suppliers (including private) to the domestic and industrial sectors.

Each water supply and sanitation Local Corporation has a Decree issued at the date of its establishment that stipulates the provisions and rules to govern and manage the LC, as well as the functions, tasks and responsibilities of interrelated public bodies. Thus, each of the five cities targeted by the Project (Sana'a, Aden, Taiz, Ibb, and Mukalla) has its own decree. Each LC provides water supply and sanitation service to all customer groups in a specified area.

Water Supply

Under Article 54 of the updated Water Law, MoWE has *"the authority to protect the water resources from contamination, preserve its standard quality, and prohibit activities that lead to its contamination or deterioration of its standards and combat cases of emergency contamination in cooperation with the relevant and competent authorities."*

The Water Law also *"provides a legal basis for controlling groundwater abstractions. It includes measures like licensing and registration requirements for wells and rigs, and more strict control regimes in water stressed catchments. The Water Law also supports decentralization in the form of encouraging the formation of basin committees and requires working closely with Local Councils in implementation of water management measures."* The government has worked to put in place a system of water rights, and to enforce contracts involving voluntary transfers of such rights between consenting parties. The NWRA (through its branch offices) is authorized to implement water laws and regulation and to allocate surface and groundwater resources to the most compelling needs.

Wastewater

The Water Law specifies that treated wastewater shall not be disposed of or allowed to be used except after coordination with the MoWE and the relevant authorities, and after consultation and coordination

²⁵ Based on the National Water Sector Strategy and Investment Program (original NWSSIP, 2004), and Dire Straits: The Crisis Surrounding Poverty, Conflict, and Water in the Republic of Yemen (World Bank, 2017)

with its users and those who are affected by its use. Article

Article 54 of the Water Law indicates that the concerned competent agencies shall, in coordination with the MoWE, issue licenses for; (i) the disposal of waste, sludge, waste water, oils and specify locations and methods of their disposal and construction of their facilities; (ii) reuse of treated water sewerage effluents according to the approved standards and specifications, and; (iv) construction of sewerage networks and desalination plants according to the relevant laws

The NWSSIP Update defines acceptable sanitation systems, taking into account that Yemeni topography, and the low flow of waste water can make centralized sewage treatment systems uneconomic.

4.3.4 Resettlement

The law most directly relevant to Project resettlement issues is the Public Eminent Domain Law (Law 1/1995), most particularly Articles 12-16 on temporary acquisition, and Articles 21-27 defining provisions for land acquisition. The Yemeni laws and regulatory framework are presented extensively in the Resettlement Framework (RF), which outlines the key issues and procedures for involuntary land acquisition under this Law.

4.3.5 Labor

The Labor Law (Law 5/1995) requires employers to address Occupational Health and Safety issues, including ventilation and lighting of workspaces; protection from emissions (gas, dust, etc.) hazards; protection from machine accidents and hazards; provision of gender-specific toilet facilities; provision of safe drinking water for workers; basic firefighting equipment and emergency exits; provision of appropriate personal protection equipment; fair compensation; access to periodic medical examinations; availability of first aid.

The Labor Law regulates the rights and wages of workers, their protection, occupational health and safety. In addition, the Social Insurance Law regulates retirement compensation.

Gender

The Labor Law states that women are equal to man in all aspects without any discrimination, and that equality should be maintained between women and men workers in recruitment, promotion, wages, training, social insurance. It also regulates work time for pregnant women.

Yemen also ratified the Convention on Elimination of all Forms of Discriminations Against Women (CEDAW) in 1984, and prepared a National Strategy for Women Development in 1997, which was updated in 2015. Implementation of CEDAW is delegated to relevant ministries and authorities (Decree 55/2009). Based on amendments proposed by the Women National Committee, 24 laws were amended to ensure building gender balance in accordance with the convention.

ILO Fundamental Conventions

Yemen has ratified ILOs eight “fundamental” Conventions, covering subjects that are considered to be fundamental principles and rights at work:

1. Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87)
2. Right to Organize and Collective Bargaining Convention, 1949 (No. 98)
3. Forced Labour Convention, 1930 (No. 29) (and its 2014 Protocol)
4. Abolition of Forced Labour Convention, 1957 (No. 105)
5. Minimum Age Convention, 1973 (No. 138)
6. Worst Forms of Child Labour Convention, 1999 (No. 182)
7. Equal Remuneration Convention, 1951 (No. 100)
8. Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

Law 7/2001 ratified ILO Convention Number 138 on Minimum Age for Admission to Employment. ILO Convention 182 on the Worst Forms of Child Labor refers to child labor as work that is mentally,

physically, socially or morally dangerous and harmful to children; and interferes with their schooling by depriving them of the opportunity to attend school, by obliging them to leave school prematurely; or by requiring them to attempt to combine school attendance with excessively long and heavy work. Nonetheless, drawing a line between “acceptable” forms of work by children and child labor can prove difficult, as it depends on the child’s age, the types of work performed, the conditions under which it is performed and national.

4.3.6 International Conventions

The RoY is party to a number of international environmental agreements, the most important of which are:

- World Heritage Convention (UNESCO)
- International Convention on Civil Liability for Oil Pollution Damage (CLC)
- The Convention on Biodiversity (CBD)
- The Convention on the Conservation of Migratory Species (CMS)
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- The United Nations Framework Convention on Climate Change (UNFCCC)
- Kyoto Protocol (Yemen is not yet a party to the Paris Climate Agreement)
- The United Nations Convention on Combating Desertification (UNCCD)
- The Environmental Modification Convention (ENMOD)
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- Convention on Wetlands of International Importance Especially as Waterfowl Habitat
- Law of the Sea
- The Montreal Protocol on Substances that Deplete the Ozone Layer
- Stockholm Convention on Persistent Organic Pollutants

In general, national agencies are not currently in a position to handle the technical complexities and reporting requirements of international agreements. Project activities are not expected to be in breach of any international agreement to which the RoY is a party.

4.4 Comparison between World Bank Requirements and Yemeni Requirements

The following table compares World Bank environmental and social requirements with Yemeni Requirements, identifies gaps and suggests recommended actions.

Table 1. Comparison of World Bank and Yemeni Environmental and Social Requirements relevant to the Project

<i>World Bank Requirements</i>	<i>Yemeni Requirements</i>	<i>Recommended Action</i>
ESS1. Environmental Assessment		
Identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs.	<p>The Environment Protection (EPL, 26/1995) requires the preparation of an EIA during the preparation of all projects and the inclusion of mitigation measures in the project's capital and recurrent costs (Cabinet Decree 89/1993). The EIA should describe: (i) proposed project activities, design of activity, the surrounding environment that may be affected, including a land use map of the adjacent areas, the requirement and types and source of energy, raw material and infrastructure services and roads emergency plan and safety, waste disposal etc.; (ii) and (iii) alternatives using less polluted inputs, as well as consideration of the 'no-project' alternative (EPL Article 37 Para (b)).</p> <p>The EIA guidelines require that ESIA's consider the social acceptability or refusal of the local communities to the proposed project, with evidence and record of public consultations and, if it is accepted, should include baseline data, indicators and monitoring plan. It also includes requirements for monitoring, capacity building, verification of monitoring results and findings (EPL Article 60).</p>	National requirements and ESF objectives are aligned, an complement each other. UNOPS will apply both the ESF and national requirements
<p>To adopt a mitigation hierarchy approach to anticipate and avoid risks and impacts;</p> <p>Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;</p> <p>Once risks and impacts have been minimized or reduced, mitigate;</p> <p>Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.</p>	<p>Yemeni law has no equivalent to the mitigation hierarchy.</p> <p>National law gives priority to the principle of environmental protection and pollution prevention, and not only to the mitigation or compensation of impacts. All new projects must carry out EIAs to prevent adverse impact and must obtain an environmental permit. No project or new structure that could harm, pollute or deteriorate the environment and natural resources is allowed and all new projects should use best available practices for clean production and apply environment protection/pollution prevention measures.</p>	UNOPS will apply the ESF requirements
To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project.	Included in the EPL (26/1995)	National requirements and ESF objectives are aligned, an complement each other. UNOPS will apply both ESF and national requirements

World Bank Requirements	Yemeni Requirements	Recommended Action
To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate.	The Environmental Protection Council must inform the proposed projects proponents of the screening results within three months from submission of the project proposal and determines the appropriate EA instrument and required studies required to assess potential risks and impacts. The EIA guideline provides the possibility of using regional and international assessment procedures and norms when applicable. If the project is rejected, the rejection note should indicate the basis for the rejection, as well as the relevant sections of the regulatory framework. The EIA guideline also provides the possibility for project proponents to contest any rejection and to appeal to the special court, within a period of 60 days. The court is required to make a final judgment within six months (Chapter 1 Article 3, EPL 26/1995 - By-law 148/2000).	UNOPS will take into account national laws and regulations when applying the ESF requirements
To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.	Include in the Environmental Protection Law No. 26/1995.	UNOPS will take into account national laws and regulations when applying the ESF requirements
ESS2. Labor and Working Conditions		
No equivalent in ESS2	To provide every employee with written particulars of employment Included in Yemen Labour Law Number 5/1995, Articles Number 27, 28, 29, 30, 31, 32, 33, 34	Contractors will be required to comply with national legislation when recruiting workers.

World Bank Requirements	Yemeni Requirements	Recommended Action
<p>To promote safety and health at work.</p>	<p>Included in Yemen Labor Law Number 5/1995, Articles 113, 114, 115, 116, 117 and 118,</p> <p>Chapter 9 of the Labor Law (5/1995), Law Number 25/1997 and Law Number 25/2003 address Occupational Health and Safety and work environment in Articles 113 to 118. Chapter 10 covers worker's insurance.</p> <p>Employers are required to provide necessary occupational safety and health conditions, including: ventilation and lighting of workspaces; protection from emissions (gas, dust, etc.) hazards; protection from machine accidents and hazards; provision of gender-specific toilet facilities; provision of safe drinking water for workers; basic firefighting equipment and emergency exits; provision of appropriate personal protection equipment; fair compensation; access to periodic medical examinations; availability of first aid. The competent authority shall ensure the availability of the appropriate work environment and conditions for occupational safety and health. The Ministry of Labor is charged with advising employers in the field of occupational health and safety; organize and implement accident prevention training programs; exchange of technical information; identify and evaluate the means of accident prevention measures; etc.</p> <p>The Minister may establish sub-committees for occupational health and safety in the governorates and in the sectors and industries, which include the relevant bodies. The composition decision shall determine the functions of these committees, their terms of reference and the rules governing their work.</p> <p>Where employers fail to implement labor protection and labor safety regulations, they could receive a one week stop order from the Minister, until the reasons for the breach are explained. The Minister must refer the matter to the competent arbitration committee if the partial suspension is extended or if a total suspension is requested. If the risk is still not removed by the employer, the workers who have stopped working are entitled to full wages.</p>	<p>Each contractor will be required to have an OHS Officer and First Aider.</p> <p>Contractors required to keep logs of incidents and should be reported and investigated regularly.</p> <p>Contractors will do daily toolkit talk, and UNOPS will conduct weekly induction talks to workers and contractors.</p>
<p>To promote the fair treatment, non-discrimination and equal opportunity of project workers.</p>	<p>Included in Yemen Labor Law Number/1995, Articles 5, 42, and 67.</p>	<p>Contractors will be required to comply with national legislation when recruiting workers.</p>

World Bank Requirements	Yemeni Requirements	Recommended Action
<p>To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate.</p>	<p>Included in Yemen Labor Law Number (5/1995), Articles 5, 15, 42, 43, 44, 45, 46, 47a, 47b and 89; the Law for the Organization of Workers' Unions (35/2002); the Law for Social Insurance (26/1991).</p> <p>The Labor Law regulates the rights and wages of workers, their protection, occupational health and safety. In addition, the Social Insurance Law regulates retirement compensation.</p> <p>Gender</p> <p>Yemen ratified the Convention on the Elimination of all Forms of Discriminations Against Women (CEDAW) in 1984, and prepared a National Strategy for Women Development in 1997, which was updated in 2015. Implementation of CEDAW is delegated to relevant ministries and authorities (Decree 55/2009). Based on amendments proposed by the Women National Committee, 24 laws were amended to ensure building gender balance in accordance with the convention.</p> <p>The Labor Law (Law 5/1995) states that women are equal to man in all aspects without any discrimination, and that equality should be maintained between women and men workers in recruitment, promotion, wages, training, social insurance. It also regulates work time for pregnant women.</p>	<p>National legislation will be applied.</p> <p>However, the World Bank standards will be enforced where there are gaps.</p> <p>The higher standard between the national legislation and World Bank standards will always prevail in case of uncertainty in applicable requirements.</p>
<p>To prevent the use of all forms of forced labor and child labor.</p>	<p>Forced Labor</p> <p>Included in Yemen Labor Law Number 5/1995, Articles 55</p> <p>Child Labor</p> <p>Included in Yemen Labor Law Number 5 /1995, Article 49</p> <p>Yemen has also ratified ILO Convention Number 138 on Minimum Age for Admission to Employment (Law 7/2001). The Convention establishes a minimum age for admission to employment.</p> <p>Yemen has also ratified the ILO Convention 182 on the Worst Forms of Child Labor. It refers to child labor as work that is mentally, physically, socially or morally dangerous and harmful to children; and interferes with their schooling by depriving them of the opportunity to attend school, by obliging them to leave school prematurely; or by requiring them to attempt to combine school attendance with excessively long and heavy work.</p> <p>Drawing a line between “acceptable” forms of work by children and child labor can prove difficult, as it depends on the child’s age, the types of work performed, the conditions under which it is performed.</p>	<p>Forced Labor</p> <p>Contractors will be required to comply with national legislation and as precautionary measure to conduct an induction and random inspection will be done on a regular basis to ensure compliance</p> <p>Child Labor</p> <p>Contractor will be prohibited to employ anyone under the age of 18 years.</p> <p>Monitoring will be done through the National ID system that every employee is required to produce on employment.</p> <p>If a contractor is found to have engaged under age children in the project: - a formal case will be reported and the contract will be terminated.</p>

World Bank Requirements	Yemeni Requirements	Recommended Action
To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.	Included in Yemen Labor Law (5/1995) Articles 151 and 152, and the Law for the Organization of Workers' Unions (35/2002)	Contractors must inform workers of their right to organize according to the law.
To provide project workers with accessible means to raise workplace concerns.	Included in Yemen Labor Law (5/1995) Articles 129, 130, 132 and 136.	Contractors will be required to comply with national legislation in this regard. Contractors will be required to have a grievance procedure and inform workers of the same during induction. UNOPS and TPM will require contractors to log worker's grievances in monthly reports
ESS3. Resource Efficiency and Pollution Prevention and Management		
To promote the sustainable use of resources, including energy, water and raw materials.	Included in the EPL, the Water Law (33/2002), the Law for Mines and Quarries (24/2002), the Electricity Law (1/2009), and the Renewable Energy Strategy.	National requirements and ESF objectives are aligned, and complement each other.
To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.	National law gives priority to the principle of environmental protection and pollution prevention, and not only to the mitigation or compensation of impacts. All new projects must carry out EIAs to prevent adverse impact and must obtain an environmental permit. No project or new structure that could harm, pollute or deteriorate the environment and natural resources is allowed and all new projects should use best available practices for clean production and apply environment protection/pollution prevention measures. Yemeni Law encourages related sectors and projects to provide institutional capacity and training for projects to enhance their capacity and knowledge in handling environmental issues. It also encourages research and development in all environmental aspects (EPL, Article 90).	UNOPS will apply both ESF and National requirements to the Project
To avoid or minimize project-related emissions of short and long-lived climate pollutants	Included in the EPL (26/1995), and is a Yemeni commitment under the Climate Change Convention.	Both World Bank ESF objectives and National requirements will apply to the Project
To avoid or minimize generation of hazardous and non-hazardous waste.	Included in the EPL (26/1995), the Pesticide Law (25/1999), the Public Cleaning Law (39/1999), and the Law Establishing Cleaning Funds (20/1999)	Both World Bank ESF objectives and National requirements will apply to the Project
To minimize and manage the risks and impacts associated with pesticide use	Included in the Pesticide Law (25/1999), and the EPL (26/1995)	Both World Bank ESF objectives and National requirements will apply to the Project

<i>World Bank Requirements</i>	<i>Yemeni Requirements</i>	<i>Recommended Action</i>
ESS4. Community Health and Safety		
To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and nonroutine circumstances.	Yemeni Law does not specifically address community health and safety	UNOPS will follow ESF requirements
To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams.	No equivalent in Yemeni law. However, IPCC National Contribution commitments and other various national laws (EPL Chapter 2 Article 5 and 7) address global environmental concerns, such as the ozone layer and climate change	UNOPS will follow ESF requirements
To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials.	No equivalent in Yemeni law	UNOPS will follow ESF requirements
To have in place effective measures to address emergency events	Included in Yemen Labour Law Number 5 for 1995, Articles 119, 121	National requirements and ESF objectives are aligned, and no significant gaps are noted. Both World Bank ESF objectives and National requirements will apply to the Project.
To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.	No equivalent in Yemeni Law	UNOPS will follow ESF requirements
ESS5. Land Acquisition, Restrictions on Land Use and Involuntary Resettlement		
To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives	Included in Yemeni laws, e.g., urban planning law	Both ESF and national requirements will be applied
To avoid forced eviction	Included in the Yemeni Constitution, and Civil Law.	Both ESF and national requirements will be applied

World Bank Requirements	Yemeni Requirements	Recommended Action
To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher	Public Eminent Domain Law addresses involuntary land taking resulting in relocation or loss of shelter and loss of assets or livelihood and fair and timely compensation. There is no measure for livelihood restoration in Yemeni law.	UNOPS will follow ESF requirements
To improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure.	Payment is made for disturbance, loss of accommodation, loss of profit and transport allowances. Compensation is on monetary basis only. Yemeni law does not recognize any vulnerable groups, but it does recognize squatters.	UNOPS will follow ESF requirements
To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant.	The Civil Law and Local Administration Law requires the prompt and fair payment of compensation on monetary basis to replace the lost land within a distance not more than 20 km from the project site. The governments in Sana'a and Aden provide adequate housing, access to service facilities, and security of tenure, to improve living conditions of poor and vulnerable persons who are physically displaced.	UNOPS will follow ESF requirements
To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	In Yemeni law, PAPs must be informed about resettlement decisions through the compensation committees that negotiate with them and gather information about asset inventory, number of family members, etc. PAPs are to be informed about their rights, consulted on, provided FULL, FAIR and PROMPT compensation based on market value of the Property for lost assets attributable directly to the project. PAPs can dispute the amount to the Land Tribunal through the district commissioner to choose alternatives PAPs can first seek satisfaction through local customary practices for resolving conflicts. They can then initiate legal proceedings in accordance with national law.	UNOPS will follow ESF requirements
ESS6. Biodiversity Conservation and Sustainable Management of Living Natural Resources		
To protect and conserve biodiversity and habitats.	Included in the Environmental Protection Law No. 26/1995 and Yemen is a party in the Conservation of Biodiversity Convention.	No major gap between national, international requirements and ESF objectives. Both will be applied.

<i>World Bank Requirements</i>	<i>Yemeni Requirements</i>	<i>Recommended Action</i>
To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity.	Included in the Environmental Protection Law No. 26/1995 and Yemen is a party in the Conservation of Biodiversity Convention.	No major gap between national, international requirements and ESF objectives. Both will be applied.
To promote the sustainable management of living natural resources.	Included in the Environmental Protection Law No. 26/1995 and Yemen is a party in the Conservation of Biodiversity Convention.	No major gap between national, international requirements and ESF objectives. Both will be applied.
To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.	Included in the Environmental Protection Law No. 26/1995 and Yemen is a party in the Conservation of Biodiversity Convention.	No major gap between national, international requirements and ESF objectives. Both will be applied.
ESS7. Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities		
Not Relevant		

World Bank Requirements	Yemeni Requirements	Recommended Action
ESS8. Cultural Heritage		
<p>To protect cultural heritage from the adverse impacts of project activities and support its preservation.</p>	<p>EPL (26/1995, Chapter 3 Article 37) requires the establishment of a national list of all sites with important cultural heritage or environmental sensitivity such as wetland sites, coral reefs, protected areas and national parks.</p> <p>During projects planning in urban and rural areas, projects should plan for the protection of cultural heritage. If there is an indication of existence of any cultural heritage, the relevant authority must be consulted before commencement of project works. Project works should be located no closer than 500 m from the nearest known cultural heritage (Presidential Decree 21/1994, Parliament Decree 14/1994 and Law 8/1997 Amending the Antiquities Law 21/1994, Article 12).</p> <p>In the event of a chance find of above ground or underground cultural heritage, government authorities must be consulted and the site must be guarded safely until the related governmental authority experts came, investigate and have a hold on it, in return the finder is entitled to suitable reward regardless of the value and age of the cultural heritage.</p> <p>The General Organization for Antiquities and Museums (GOAM) has the mandate to stop any works that could damage antiquities and cultural heritage areas and to preserve cultural field work and excavation findings (Presidential Decree 21/1994, Parliament Decree 14/1994 and Law 8/1997 Amending article 9 of the Antiquities Law 21/1994).</p> <p>UNESCO, the Doha Office of GOAM and Oxford University agreed to jointly launch the Yemeni Heritage Management Platform Database in 2017</p>	<p>The Yemeni requirements are more specific. UNOPS will ensure that any cultural heritage encountered during the work will be reported to the GOAM and the Yemeni Heritage Management Platform Database</p> <p>National requirements and ESF objectives are aligned, and no significant gaps are noted. Both World Bank ESF objectives and National requirements will apply to the Project.</p>
<p>To address cultural heritage as an integral aspect of sustainable development</p>	<p>To conduct field-based surveys by specialists and describe the proposed site for project including map, borders and neighborhoods with design of infrastructures, facilities and services and all inputs and outputs (EPL and EIA Guideline).</p>	<p>National requirements and ESF objectives are aligned and complementary. UNOPS will apply both ESF and national requirements</p>
<p>To promote meaningful consultation with stakeholders regarding cultural heritage.</p>	<p>No comparable requirement under Yemeni law</p>	<p>UNOPS will apply ESF requirements</p>
<p>To promote the equitable sharing of benefits from the use of cultural heritage.</p>	<p>No comparable requirement under Yemeni law</p>	<p>UNOPS will apply ESF requirements</p>
ESS9. Financial Intermediaries		
<p>Not Relevant</p>		

<i>World Bank Requirements</i>	<i>Yemeni Requirements</i>	<i>Recommended Action</i>
ESS10. Stakeholder Engagement and Information Disclosure		
To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties.	Article 35 of the Yemeni Constitution declares that Environment protection is the responsibility of the state and the community and that it is a duty for every citizen. Community and NGO participation are considered an essential part of consultation while planning proposed projects, and is a continuous process before, during and after project implementation (EPA EIA Guideline). Furthermore, NGOs and individuals can directly sue any person or entity who causes harm to the environment and natural resources or participate in its deterioration and pollution (EPL Article 4, para 4 and Article 82).	UNOPS will follow ESF requirements
To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance.	Included in the Local Administration Law	UNOPS will follow ESF requirements
To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them.	Included in the Local Administration Law	UNOPS will follow ESF requirements
To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.	ESIAs should include a reference list and a non-technical summary for public use and disclosure in a form and language understandable to general public (EPA EIA guideline).	National requirements and ESF objectives are aligned, and no significant gaps are noted. Both World Bank ESF objectives and National requirements will apply to the Project.
To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances	Article 51 of the Constitution allows for recourse to the courts. The Public Eminent Domain Law and the Local Administration Law provide for the right of grievance before the Estimation Committee/courts. To address grievances, PAPs can first seek satisfaction through local customary practices for resolving conflict. They can then initiate legal proceedings in accordance with provincial national law.	National requirements and ESF objectives are aligned, and no significant gaps are noted. Both World Bank ESF objectives and National requirements will apply to the Project.

Chapter 5.

Environmental and Social Baseline

5.1 Water and Sanitation

Even before the ongoing conflict, Yemen suffered from acute water scarcity. The water crisis has been exacerbated during the last three decades due to rapid population growth and excessive withdrawal of the limited fossil groundwater for irrigation use. This is a consequence of many factors including government policy that encourages farmers to shift from traditional rain-fed to irrigated agriculture, mismanagement of scarce water resources. Before the conflict started, the public water supply covered approximately half of the urban population. The other half of the population was supplied water through unstructured private sector interventions, at a high cost, and with poor water quality.

The systemic water and sanitation crisis in Yemen has been exacerbated by the ongoing conflict, internal displacement, COVID-19 pandemic, and natural disasters. According to UNICEF, as of October 2020, about 18 million people lack adequate access to clean water and sanitation in Yemen. Only about one third of the population is connected to piped water. The armed conflict has seriously affected infrastructure and led to an almost complete stoppage of water service delivery. In addition, according to the 2020 Update of the Yemen DNA, an estimated 38 % of water and sanitation facilities in major cities are currently damaged and have lost functionality. An assessment conducted in 2016²⁶ also demonstrated how the inability to pay basic salaries of Water and Sanitation Local Corporations' (WSLCs)²⁷ staff has further limited the operation of water facilities and services. Although the WSLCs, their branch offices, and associated utilities have maintained a skeleton staff, they continue to face significant challenges, including financial sustainability, infrastructure replacement or repair, customer demands and work force remuneration. Thus, a significant portion of the urban population is relying on unregulated private water tankers. Due to the lack of functioning water and sanitation services, many cities in Yemen, including Aden and Sana'a, are currently confronted with a significant cholera outbreak.

Water Resources

Due to its geographical location within an arid to semi-arid zone, Yemen suffers from acute water scarcity. The current annual renewable freshwater resources in Yemen are estimated at 80 m³ per capita, compared to a global average of 8,900 m³ per capita and below the absolute scarcity threshold of 500 m³ per capita. The total water quantity used each year in Yemen is about 3.9 billion m³, of which 90 percent is used for agricultural activities, 8 percent for municipal water supply sector, and 2 percent for the industrial sector. Several major cities are already bearing the brunt of water scarcity: Taiz experiences extreme water stress; the Local Water and Sanitation Corporation of Sana'a is closing six existing deep wells on average each year, and expansion is constrained by the lack of new sources. In addition, the coastal cities, including Aden and Hodeidah - the economic and commercial hubs - lack safe drinking water, mainly due to sea water intrusion and deterioration of water quality due to the seepage of untreated wastewater from manholes, septic tanks, and non-operational wastewater treatment plants. An estimated 90 per cent of Yemen's water is used for agricultural production, mainly through irrigation from groundwater wells. This has led to the rapid abstraction of fossil/non-renewable groundwater particularly in the upper highlands water basins and regions surrounding Sana'a. The main groundwater aquifers supplying some major cities, including the capital Sana'a, are at risk of being fully depleted in the

²⁶ Conducted by Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ).

²⁷ In the water and sanitation sector in Yemen, the Local Corporations are the utility providers operating in various urban centers.

foreseeable future.

Urban Water Supply and Sanitation

Access to improved water has declined for several years, and significant access gaps persist in sanitation. Even before the ongoing conflict, access to clean water sources between 1990 and 2010 declined from 96 percent to 72 percent in urban areas, and from 59 percent to 47 percent in rural areas.

Overall, nationwide access to improved water sources declined from 66 percent to 55 percent during the same period. Moreover, reliance on private water trucks as a source of water supply has increased over time. Fifty-three percent of the population has access to improved sanitation which includes flush toilets, piped sewer systems, septic tanks, flush or pour flush to pit latrines, ventilated improved pit latrines (VIP), pit latrines with slab, and composting toilets. Access to improved sanitation has improved in both rural and urban areas over time, increasing from 24 percent in 1990 to 53 percent in 2010 nationally. Open defecation, which was mostly prevalent in rural areas, substantially declined from 44 percent of the rural population in 1990 to 22 percent in 2010. However, these figures may not accurately depict the current situation due to the absence of reliable Water Sanitation and Hygiene (WASH) data particularly during the conflict.

- Much of the water infrastructure is in poor condition and physical losses are high. The private sector supplies the needs of unconnected households through tankers, local networks and water shops, and also meets the shortfalls in supply to households connected to the network. However, water from a private tanker can cost up to ten times as much as network water. It is predominantly the poor who are not connected to networks, and who have therefore to pay these high prices.

-Shortages meant that expanded networks have resulted in reduced per capita supply, with pre- crisis average per capita supply in some large towns as little as 30 liters per capita per day. Evidently, these utilities are running in order to stand still. They are also conflicted between three, at times, incompatible mandates: affordable service expansion and provision, a business approach, and protection of the poor, all of which are to be served by a scarce water resource. In all cities, tariffs remain below operation and maintenance cost-recovery levels.

With large and visible installations in the heart of population centers, urban water utilities proved exceptionally vulnerable to the unrest. In addition, water services are dependent on energy, materials, and spare parts, supplies of which suffered widespread disruption. In all urban centers, utilities suffered from lack of electricity and diesel, which caused reduced production from wells, as well as persistent problems in distribution. Reduced supply performance and overall chaotic conditions also reduced both billing and customer payments, resulting in a cash flow crisis, which in turn impacted on service delivery performance. Non-revenue water increased as the number of illegal connections rose.

The conflict has exacerbated service gaps and institutional challenges in the water and sanitation sector. Access to improved drinking water sources has declined by up to 50 percent as a result of the conflict. Service delivery, which used to be intermittent in most cities before the conflict, has become even more uneven, forcing consumers to seek costly alternative sources of water supply with questionable quality, including private water tankers. In addition to the destruction of water and sanitation facilities, many water utilities have partially or totally halted services because of physical damages, lack of fuel, electrical outages, inadequate revenue collection, water theft, tampering of water meters, and high absenteeism among unmotivated technical staff who have not received salaries in over three years. In addition, there has been a dramatic increase in the number of sewage system breakdowns since the armed conflict began due to lack of maintenance caused mainly by the reduction of revenues to pay workers. The deteriorating water supply and sanitation situation significantly contributed to the cholera crisis, which began in October 2016, subsided by January 2017, only to be reactivated in April 2017. By July 27, 2019, a cumulative total of 1,920,526 suspected cholera cases and 3,504 cholera-associated deaths had been reported. The first 6 months of 2019 showed a new wave of cholera outbreak in which 494,699 suspected

cholera cases and 742 associated deaths were reported.

Water Scarcity and Social Conflicts

The ongoing conflict has aggravated chronic water scarcity, which was already a driver of fragility. Even before the conflict, an unpublished report indicated that about 4,000 people were killed each year due to social conflicts related to water scarcity. While a comprehensive assessment has not been done to date on the impact of the conflict on water resources and water uses, the conflict has clearly affected the implementation of the water law and its bylaws, weakened water sector institutions, and led to increased illegal drilling as well as over abstraction of limited fossil groundwater. Private water tankers have emerged as alternative water providers who buy water of questionable quality but at high price directly from the owners of shallow wells. Some of these wells

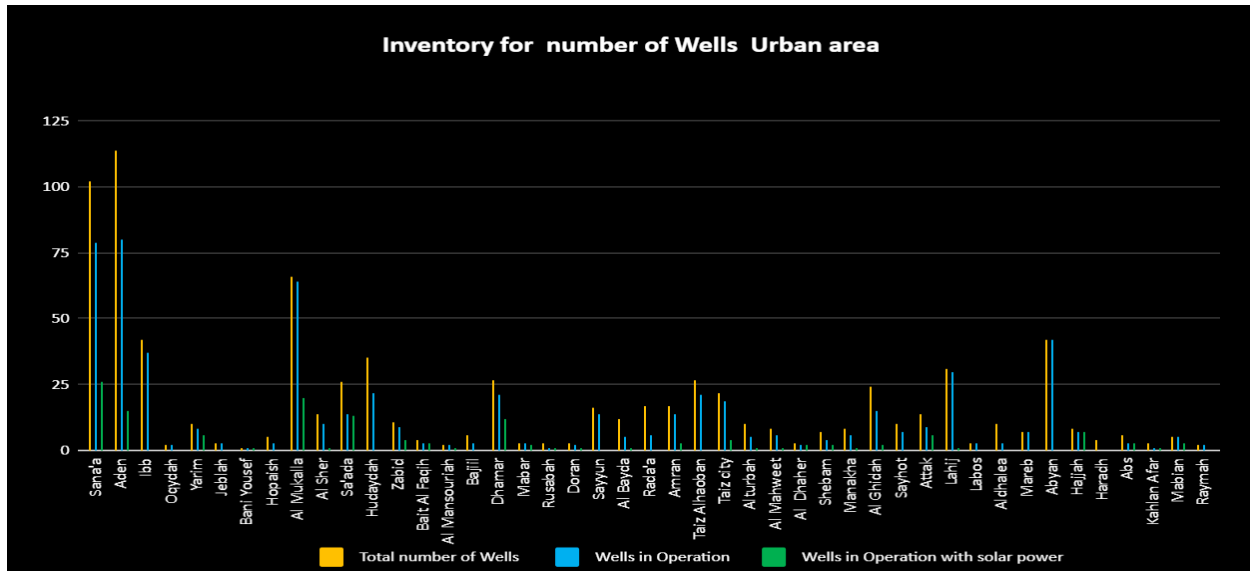
are registered with the responsible authorities (e.g. in Sanaa, a survey found that 75% of private well owners were registered with the Ministry of Water and Environment (MoWE) and The General

Authority for Rural Water and Sanitation Projects (GARWSP), while some others are not registered (e.g. in Aden, the same survey found that none of the well owners were registered). While water tankers have filled a wide gap in water service delivery particularly during the conflict, there have been indications that tankers can be a source of water contamination due to lack of sanitary inspection and contaminated water sources. In recent years, United Nations Children's Fund (UNICEF) has implemented a small inspection program, and many water tankers in Sana'a have been subjected to inside and outside painting in addition to adding chlorine pills. Recently, the WASH cluster reported drastically reduced boreholes capacity and pumping hours (from 22 hours to 2 hours) and completely dried up wells in Hajjah governorate which caused tensions between the Internally Displaced persons (IDP) and the host community. Salinity and Total Dissolved Solids (TDS) have significantly increased in shallow wells and deep boreholes, above the World Health Organization (WHO) limit (some tests show up to 6,000 ppm, while the last test in 2015 showed 800). Similarly, in Ibb city, several serious conflict cases over water have been reported as well. Given that groundwater resources were already being depleted at an alarming rate particularly in the main basins of the highlands, including Sana'a,

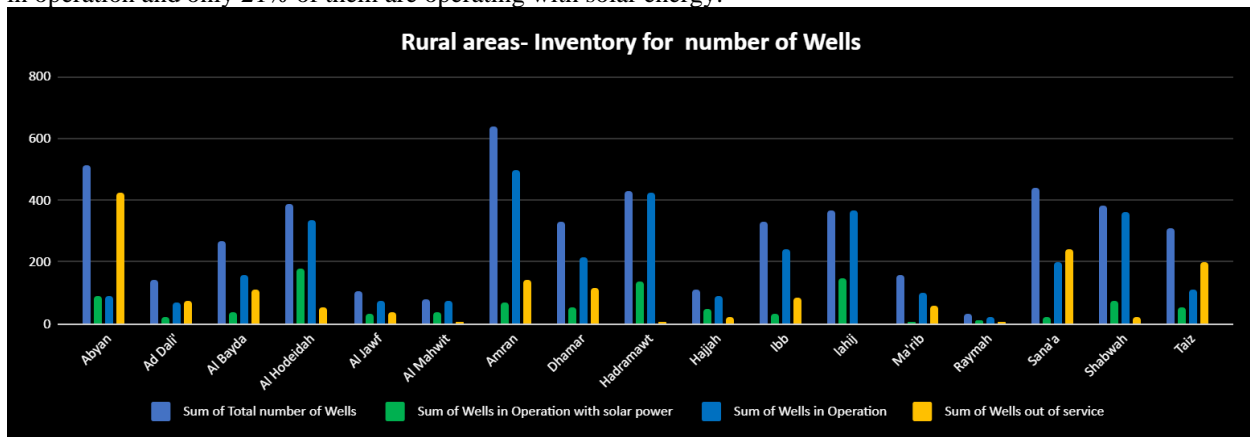
Taiz, Amran, Saadah, and Radaa, the continued unmonitored and uncontrolled abstraction of limited groundwater resources is a cause for concern, especially in light of the link between water resources, fragility, conflict and violence.

In coordination with General Authority for Rural Water Supply Projects (GARWAP), Water and Sanitation Local Corporations, National Water and Sanitation Authority -Branches (NWASA) UNOPS has recently conducted a rapid assessment inventory to count the situation and numbers for drinking water wells in 17 Governments for the rural area and in 45 cities within Yemen urban areas.

The results indicate that for the urban areas, the estimated total number of the existing drinking-water wells are 795 wells of them 75% are currently in operation and only 18% of them are operating with solar energy.



for the rural the estimated total number of the existing drinking-water wells around 5K wells of the 68% are currently in operation and only 21% of them are operating with solar energy.



Taking in consideration the huge need and available fund UNOPS will utilized selection criteria as showing in section 2.3 below .

Public Sanitation System²⁸

The public sanitation system in Yemen is in general poorly developed; the extension of sewer systems has been neglected in the past due to various reasons. Out of 23 investigated utilities only 12 operate a public sewer collection system. Sa'ada, Mansouria, the affiliated branches of Hajja have no sewerage system and Abyan, Lahij sanitation system consists only of few sewer lines under responsibility of the local council. On the other hand, most of those LCs which have sanitation systems have not even connected 50% of the urban population to the network. The percentage of urban population connected to the public sewer system varies significantly among the utilities. The lowest coverage is in Amran, Taiz and Al Shehr with about 36 to 40%. The highest coverage is reached in Zabid followed by Aden with 74% respectively 69%. The residents not connected to the public sewer system have to discard their wastewater to private cesspits or other means.

For households and other customers connected to the sewer system, their wastewater is collected and

²⁸ GIZ- Damage Needs Assessment – Phase Three (DAS III) 2018

transported by gravity or pumping via lifting stations to the WWTP or directly to the wadi or sea . Some utilities, like Aden, Hudaydah and Mukalla require several sewer pump stations which increases not only the maintenance works but also the operational cost. Besides, the pump station operation depend on the availability of electricity. At times of power cuts some areas are likely to get flooded with wastewater.

Wastewater characteristic

The low water availability and consumption affects the characteristics of the wastewater. The current BOD₅ of wastewater influent to the WWTP in the mountains reaches 1000-1200mg/l while in coastal areas it reaches between 500-700 mg/l which is classified to be double to triple of the recommended concentration by Mecalf and Eddy²⁹.

Existing treatment systems:

There are seventeen wastewater treatment plants in the assessed utilities operating with one of the four following treatment systems:

- (1) Stabilization pond as in Dhamar, Taiz, Aden, Bajil, Bait Al-Faqi, Amran, Mukalla and Al-Hudaydah;
- (2) Imhoff tanks followed by trickling filters as in Hajjah;
- (3) Activated sludge –Extended aeration as in Sana’a and Ibb;
- (4) Imhoff tanks followed by Stabilization ponds as in Zabid.

The operators of the wastewater treatment systems face several challenges and problems. The frequent power cuts, unexpected nature of wastewater (high BOD₅) and sludge causing poor treatment efficiencies. The treatment systems employing Activated Sludge Extended Aeration process consume high energy. On the other hand, the so called low cost treatment systems, which comprises the stabilization ponds and Imhoff tanks followed by trickling filters as applied in most LCs have proved to operate satisfactory due to the simplicity and flexibility of the processes.

Some of the WWTP have exceeded the nominal flow capacity limit. The inflow amount exceeds by far the acceptable amount, e.g. in Sana’a, Ibb and Hajjah (secondary treatment method). The result is that the WWTP is not able to treat the sewerage effectively causing beside environmental problems bad odour which is affecting the population in the surrounding.

Wastewater reuse

The possibility of using low-cost reclaimed wastewater for irrigation depends on the topography of the served cities: while the LCs located at coastal areas discharge the treated wastewater directly into the sea, those cities placed in the mountain area could probably use the treated wastewater without high pumping cost.

Table 2: Waste Water Treatment

Item #	Corporation	City /Utility	Wastewater Treatment Technology	WWTP Design Capacity m3/d	Inflow to WWTP m3/d
1	Abyan	(Ja'ar/Zinjibar)	The collected wastewater is discharged untreated in Ja'ar directly to the valley and in Zinjibar to a large lagoon located in the city center		
2			Waste stabilization pond	500	250
3	Aden	Aden	waste stabilization pond	70,000	18,000
4			waste stabilization pond	25,000	35,000
5			waste stabilization pond	5,000	5,000

²⁹ Wastewater Engineering: Treatment and Reuse, by Metcalf & Eddy

Item #	Corporation	City /Utility	Wastewater Treatment Technology	WWTP Design Capacity m3/d	Inflow to WWTP m3/d
6	Al-Dhalea	Al-Dhalea	Septic tank +wsp	250	No data
7	Amran	Amran	waste stabilization pond	2100	2000
8	Dhamar	Dhamar	waste stabilization pond	15,000	5,200
9	Hadramout	Mukalla	waste stabilization pond	15,000	8,000
10		Al Sehr	there is no treatment system, the collected wastewater discharge directly to the sea without any treatment.		
11	Hudeidah	LC Hodeida	waste stabilization pond	54000	
12		Al-Mansouriah	There is neither collection system nor treatment system.		
13		Bait Al-Faqih	waste stabilization pond	3,816	904
14		Bajil	waste stabilization pond	3,700	990
15		Zabid	Imhoff tank followed by waste stabilization pond	1500	840
16	Ibb	Ibb	Activated sludge	3,200	11,322
17	Lahij	(Alhotah /Toban)	There is neither collection system nor treatment system.		
18	Sa'adh	Sa'adh	There is neither collection system nor treatment system.		
19	Sana'a	Sana'a	Activated sludge	50,000	55,000
20			Activated sludge	500	0
21	Taiz	Taiz	waste stabilization pond	17,000	No data
22		Al-Mokha	There is neither collection system nor treatment system.		
23		Turbah	There is neither collection system nor treatment system.		

In order to update the individual Assessment Reports of the five target LCs to cover 2019, UNOPS team has collected and analyzed all relevant data of the target LCs through the conduct of interviews, questionnaires, and desk review of relevant studies. The following sections presents the up-to-date status, institutional needs, and recommendations of the five target LCs under the YEHCP based on the DAS III³⁰.

1. Aden Water and Sanitation LC

The Aden Water & Sanitation Local Corporation was established by a Republican Decree no. (267) of 2000 as the public body for water supply and sanitation services in Aden city; making it the largest LC in the country. Aden city is the second largest city in Yemen and consists of eight districts: Al Buraiqeh, Al Mansura, Al Mualla, Ash Shaikh Outhman, Attawahi, Crater and Dar Sad with a total population of 957,171³¹. About 86 % are connected to public water supply system and 69% are connected to the sanitation system.

The main and vital water resource is the groundwater from 116 water wells distributed over three well fields, 46 of them are located in the Bir Naser water field and about 41 in the Bir Ahmed water field. Additional wells are also located in the Al Manaserh water field. The nominal water production for Ade LC per year consists of the following:

³⁰ GIZ- Damage Needs Assessment – Phase Three (DAS III) 2018

³¹ Population Projection Central Statistical Organization

- ☐ The Bir Naser field with 22,301,568 m³
- ☐ The Bir Ahmed field with 22,075,200 m³
- ☐ The Al Manaserh field with 11,672,640 m³

Customers obtain water through a transmission and distribution network with a total length of 1,111 km. The sanitation system consists of about 391 km of piping collection network and three wastewater treatment plants with a total capacity of 100, 000 m³ per day.

Table 3: water and sanitation services overview of the LC (2014-2017)

Key parameter	DAS III		2019 ³²	Improvement /Deviation %
	2014 (prior to crisis)	2017 (current situation)		
Population Aden City	855,850	957,171	1,098,903	15%
Nos. of water connection	123,513	128,850	134,295	4%
Population served (water)	790,483	824,640	872,918	6%
water service coverage	92%	86%	86%	0%
Nos. of wastewater connection	105345	103,169	118,972	15%
Population connected (sanitation)	674,208	660,282	773,318	17%
Water production m ³	41,375,088	39,273,017	43,603,998	11%
Sanitation coverage	79%	69%	70%	2%
Billed water m ³	24,507,612	20,302,259	21,882,066	8%
Non-revenue water	41%	55%	50%	-9%
water consumption lpcd	86	67	70	4%

As per Table 2, there is a small increase of water connections (%4) in 2019 while the water service coverage remains the same at 86% even though the population within the service areas increased by 15% in the same year. Similarly, the numbers of wastewater connections increased by 15% in 2019 but with a small expansion of the sanitation coverage of 2%. These minor but important improved attributed to donor support and interventions; the World Bank in particular, that contributed to the restoration and improvement of the water and sanitation services in Aden city as evident from the increase of water production from 39 million m³ in 2017 to 43.6 million m³ in 2019 (11% increase) and the increase of water consumption- lpcd (per capita demand per day) from 67 liters per individual in 2017 to 70 liters in 2019, an increase by 4%.

1.1. Governance / Management

The Board of Directors (BoD) is composed of 8 members who represent the central government, the local authority, the private sector, and the local beneficiaries. No meetings took place in 2019 due to the political and security issues in Aden. Therefore, the guidance and control of the utility through the Boards had been considerably neglected during the last years.

1.2. Organization / Staffing

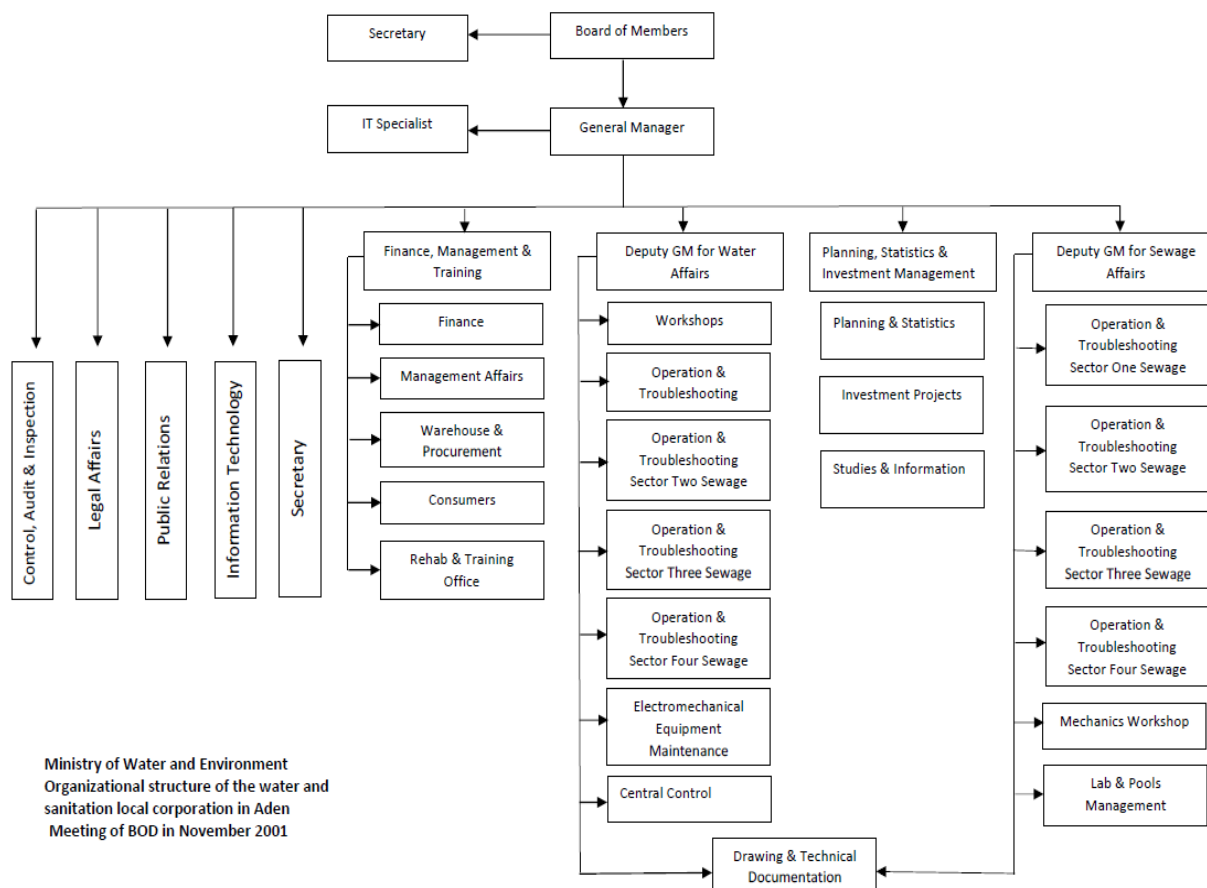
The LC has a different organization structure compared to the general structure of the Yemen LCs) in which it has:

- ☐ Two Deputy General Managers: one for water affairs and one for sanitation.

³² 2019 Annual financial Report and PIS of Sana'a LC & Resilience Emergency Indicators Sheet Jan-Dec 2019- GIZ

- ☐ Two main departments under the direct supervision of the General Manager:
 - Financial and Administrative Department
 - Planning and Projects Department.
- ☐ A Customer Services Department that is under the supervision of the Financial and Administrative Manager.

Figure 1: Organizational Structure of Aden LC



Ministry of Water and Environment
Organizational structure of the water and sanitation local corporation in Aden
Meeting of BOD in November 2001

As of 2019, the LC employs a total staff of 2,025 including contracted and day workers and this represents a slight increase in the total number of staff from 2017. However, this number of staff suggests that the LC is overstaffed because there are 15 staff per 1,000 water and sanitation connections and this is higher than the NWS SIP (09/2007) benchmark of 7 staff per 1,000 connections.

Key parameter	Unit	DAS III	2019	% of Female to Total staff
Total staff (incl. contracted and dayworkers)	nos	2,020	2,025	8%
Nos. of staff per 1000 connections	nos/1000	16	15	-

1.3. Finance / Customer

The latest financial statements of Aden LC were audited by the Central Organization for Control and

Auditing (COCA) in 2013. In 2019, the financial indicators show slight improvements mainly due to the notable increase of the payment collection from 28% in 2017 to be 36 % in 2019. This increase is due mainly to the improved relationship between Aden customers and the LC as a result of the improved water services (supply and frequency). As a result of the ongoing support and the intervention by international donors through the provisions of fuel/power and rehabilitation works of the water infrastructure, the LC's total revenues increased by 29% in 2019 despite the small growth in the water and sanitation coverage service and the remaining of the service tariffs unchanged.

However, the total reported revenues covers only 58% of the LC's operation and maintenance expenditures and the collected payments that have increased to 36% can only cover 21% of actual expenditures. While total revenues increased in 2019, total expenditures were also increased by 56%; mainly due to the 32% increase of salaries and wages as per the decision of the Central Government to increase wages of all public employees.

Table 4: Financial summary of Aden LC

Key parameter	Unit	DAS III	2019 ³³	Improvement /Deviation %
Total billed	YER	4,107,348,739	4,193,360,496	2%
Total collected	YER	1,167,639,049	1,509,104,958	29%
Collection efficiency	%	28%	36%	29%
Total revenues	YER	4,094,217,703	4,016,041,094	-2%
Total O&M cost	YER	4,630,023,749	7,233,290,682 ³⁴	56%
Electricity and fuel cost actual	YER	1,585,557,786	3,530,186,682	123%
Salary expenses actual	YER	2,803,133,855	3,703,104,000	32%
% Salaries for the total cost	%	61%	51%	-15%
% of Electricity and fuel of the total revenues	%	39%	88%	127%
% of collection coverage of expenditures	%	25%	21%	-17%
Deficit YER		-522,675,010	-3,217,249,588	516%
Date of last financial statement by an external auditor (COCA)		For the year 2013	For the year 2017	

1.4. Information systems for Operation and Maintenance Support.

The available system is for billing, accounting, inventory control, fixed assets, Performance Information Indicator System (PIIS), GIS mapping, and payroll (salaries). Since 2000, the system has been issuing regular cycles of financial and management reports. GIZ has provided technical support to maintain the system as well as IT equipment and a billing printer to enable the system continuity and functionality.

2. Sana's Water and Sanitation LC

Sana'a Water and Sanitation Local Corporation was established by a Republican Decree No. (35) of 2000 as the public body for water supply and sanitation services in Sana'a city. The decree identifies the task

³³ Resilience Emergency Indicators Sheet Jan-Dec 2019- GIZ and LC information

³⁴ Resilience Emergency Indicators Sheet Jan-Dec 2019- GIZ and UNOPS power rental invoice

and responsibilities of all involved bodies; MWE, BoD and LC management. Sana'a LC is considered the second largest LC in the country.

The LC divides the city into six areas and has six offices in these areas; each of them is responsible for water distribution and customer service in their respective geographic district. The main and vital water recourse is the ground water from 120 water wells distributed over four well fields:

- ☐ 19 of them are located in the western well fields
- ☐ 35 in the eastern wells fields
- ☐ 37 wells are located in Musayek well field
- ☐ 29 in Asser well field

The nominal annual water production for Sana'a LC comes from:

- ☐ The western well fields with 5,313,457m³
- ☐ The eastern well fields 5,890,029 m³
- ☐ The Musayek well field with 10,579,096 m³
- ☐ The Asser well fields with 7,665,104m³

Customers obtain water through a transmission and distribution network with a total length of 1,035 km. The table below summarizes the water and sanitation services overview of the LC since 2014.

Table 5: Water and sanitation services overview of the LC (2014-2017)

Key parameter	DAS III		2019	Improvement /Deviation %
	2014 (prior to crisis)	2017 (current situation)		
Population Sana'a City	2,824,000	3,234,000	3,444,367	7%
Nos. of water connection	94,120	94,935	95,918	1%
Population served (water)	1,364,740	1,376,558	1,390,811	1%
water service coverage	48%	43%	40%	-6%
Nos. of wastewater connection	88,252	88,851	91,675	3%
Population connected (sanitation)	1279654	1,288,340	1,329,288	3%
Sanitation coverage	45%	40%	39%	-4%
Water production m ³	16,578,183	4,770,511	12,363,984	159%
Billed water m ³	9,074,637	3,018,814	6,569,019	118%
Non-revenue water	45%	21%	47%	123%
water consumption lpcd	18	6	13	116%

The water service coverage decreased from 48% in 2014 (pre-crisis) to 43% in 2017 to 40% in 2019. Similarly with the sanitation coverage, it was 45% in 2014 and decreased to 39% in 2019. One of the main factors attributing to these declines is the notable 22% growth rate of Sana'a population since 2014 and the inflicted damages on the water and sanitation infrastructure as a result of the conflict.

It is important to mention that these declines in the coverage services could have been worst if international donors did intervene and support the WASH sector in Sana'a. The World Bank support, in particular, has significantly restored and improved the water and sanitation services in Sana'a as evident from the high increase of water production from 4.7 million m³ in 2017 to 12.3 million m³ in 2019 (159% increase) and the increase of water consumption- lpcd (per capita demand per day) from 6 liters per individual in 2017 to 13 liters in 2019, an increase by 116%. However, the achieved result of 13 liters (lpcd) is still far below the international standards of 40 liters for Sana'a residents.

2.1. Governance / Management

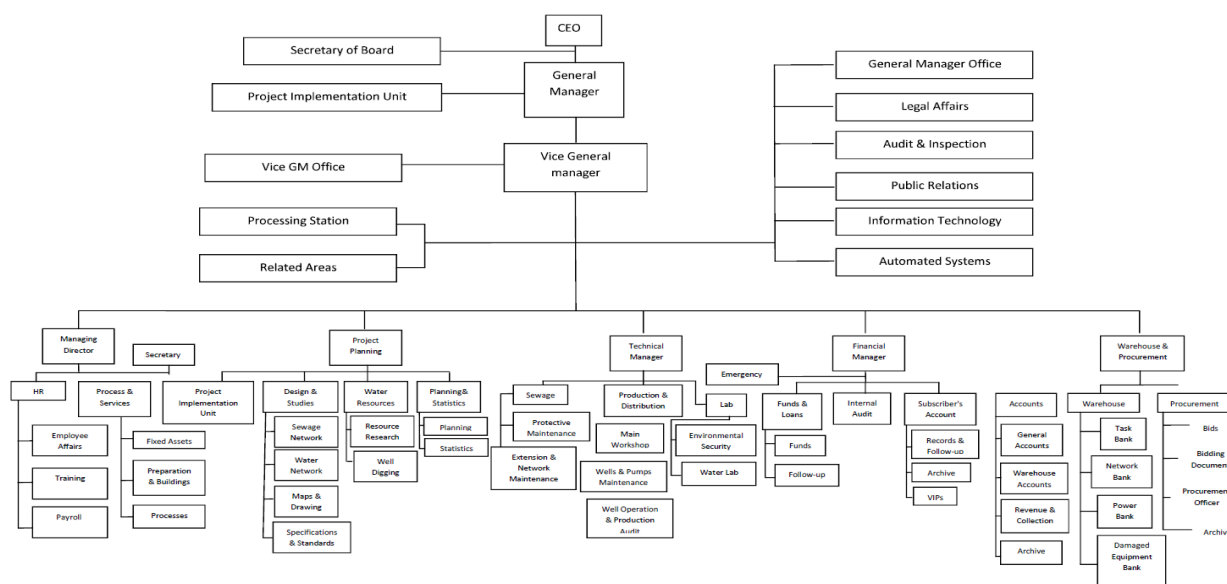
The BoD is composed of 8 members who represent the central government, the local authority, the private sector, and the local beneficiaries. No meetings took place in 2019 as the result of the conflict. Therefore, the guidance and control of the utility through the Boards had been considerably neglected during the last years.

2.2. Organization / Staffing

Sana'a LC has a main Organizational Structure (LC HQ) and two sub- Organizational Structures

- Sub-Organizational Structure for the areas
- Sub-Organizational Structure is for the WWTP

Figure 2: Organizational Structure of Sana'a LC



The LC has a total of 1,460 staff (including contracted and day workers) in 2019 and this represents a slight decrease of 54 from the total number of staff in 2017 due to the retirement of staff. However, this number of staff suggests that the LC is overstaffed because there are 15 staff per 1,000 water and sanitation connections and this is higher than the NWS SIP (09/2007) benchmark of 7 staff per 1,000 connections.

Key parameter	Unit	DAS III	2019 ³⁵	% of Female to Total staff
Total staff (incl. contracted and dayworkers) 2019	Nos	1,523	1,469	5%
Nos. of staff per 1000 connections 2019	nos/1000	16	15	-

³⁵ 2019 PIS of Sana'a LC & Resilience Emergency Indicators Sheet Jan-Dec 2019- GIZ

2.3. Finance / Customer

The latest financial statements of Sana'a LC were audited by the Central Organization for Control and Auditing (COCA) in 2013, the financial statements of 2017 is being currently under COCA's review. Despite the huge gaps in the financial reporting over the past five years, the resumption of COCA financial control and supervision is an important aspect that Sana'a LC needs to build on.

In 2019, the financial indicators show slight improvements mainly due to the notable increase of the payment collection from 57% in 2017 to be 77 % in 2019. This increase is due mainly to the improved relationship between Sana'a customers and the LC as a result of the improved water services; mainly due to the sharp increase of water production (159%) and water billing (118%) in 2019.

As a result of the ongoing support and the intervention by international donors through the provisions of fuel/power and rehabilitation works of the water infrastructure, the LC's total revenues increased by 28% (to YER 4 billion) in 2019; despite the declines in the water and sanitation coverage services and the remaining of the service tariffs unchanged.

However, the total reported revenues cover only 46% of the LC's operation and maintenance expenditures of YER 8.8 billion and the collected payments, which increased to 77% in 2019, can only cover 35% of 2019 actual expenditures. The main factor for this deficit is the rise in total expenditures, which increased by 244% in 2019 as a result of 11% increase in salaries and wages and 1,279% sharp increase in the cost of fuel and electricity.

Table 6: Financial summary of Sana'a LC

Key parameter	Unit	DAS III	2019 ³⁶	Improvement /Deviation %
Total billed	YER			28%
		3,136,096,232	4,009,564,708	
Total collected	YER			72%
		1,792,974,105	3,083,872,386	
Collection efficiency	%	57%	77%	35%
Total billed	m3	3,018,814	6,569,019	118%
Total revenues	YER	3,086,135,230	4,124,160,469	34%
Total O&M cost	YER	2,560,790,466	8,806,952,671	244%
Electricity and fuel cost actual	YER	485,058,288	6,688,956,976	1279%
Salary expenses actual	YER	1,676,617,146	1,853,791,676	11%
% Salaries for the total cost	%	65%	21%	-68%
% of Electricity and fuel of the total revenues	%	16%	162%	932%
% of collection coverage of expenditures	%	70%	35%	-50%
Deficit YER		575,305,766	-4,682,792,202	-914%
Receivable amount (depts)	YER	10,222,590,189	14,165,904,454	39%

³⁶ 2019 Annual financial Report and PIS of Sana'a LC & Resilience Emergency Indicators Sheet Jan-Dec 2019- GIZ

Date of last financial statement
by an external auditor(COCA)

For the year
2013

For the year
2017

2.4. Information systems for Operation and Maintenance Support.

The available system is for billing, accounting, inventory control, fixed assets, Performance Information Indicator System (PIIS), GIS mapping, and payroll (salaries). Since 2000, the system has been issuing regular cycles of financial and management reports. GIZ has provided technical support to maintain the system as well as server mobile billing devices to enable the system continuity and functionality.

3. Ibb Water and Sanitation LC

The Ibb Water and Sanitation Local Corporation was established by a Republican Decree No. (21) of 2001 as the official public body for water supply and sanitation services in urban areas of Ibb governorate. The LC service covers the city of Ibb as well as the autonomous utility of Al Yraim and the branches: Al Qaeda, Jibla, Hobaeesh, Al Me'shar and Bani Saif Aali.b.

The city of Ibb is one of the most important medium-sized cities in the country. It has a total population of 349,298 inhabitants, About 80 % are connected to public water supply system and 66% are connected to the sanitation system. The main and vital water resource is the groundwater from 29m water wells distributed over one major wellfields, the overall nominal water production of the wells is 7.4million m³ per year.

Customers obtain water through a transmission and distribution network with a total length of 286 km, the sanitation system consists of about 195 km sewerage network and one treatment plant with a daily capacity of 3,256 m³. The table below summarizes the water and sanitation services overview of the LC since 2014.

Table 7:water and sanitation services overview of Ibb LC (2014-2019)

Key parameter	DAS III		2019	Improvement /Deviation %
	2014 (prior to crisis)	2017 (current situation)		
Population Ibb City	324,358	349,298	572,666	64%
Nos. of water connections	25,334	28,607	33,223	16%
Population served (water)	248,273	280,349	348,842	24%
Water service coverage	77%	80%	85%	6%
Nos. of wastewater connections	20,225	23,500	27,872	19%
Population connected (sanitation)	198,205	230,300	292,656	27%
Sanitation coverage	61%	66%	72%	9%
Water production m ³	4,940,540	5,219,242	4,495,706	-14%
Billed water m ³	3,764,445	3,948,691	3,689,261	-7%
Non-revenue water	24%	26%	18%	-31%
water consumption lpcd	53	40	29	-28%

The water service coverage has slightly improved in 2019 even though the population within the service areas increased by 64%. The increase in the service coverage and number of connections was at the expense of the water consumption (lpcd), which decreases by 28%. Moreover, the quantity of water production was also decreased by 14% due to the drawdown in the groundwater level.

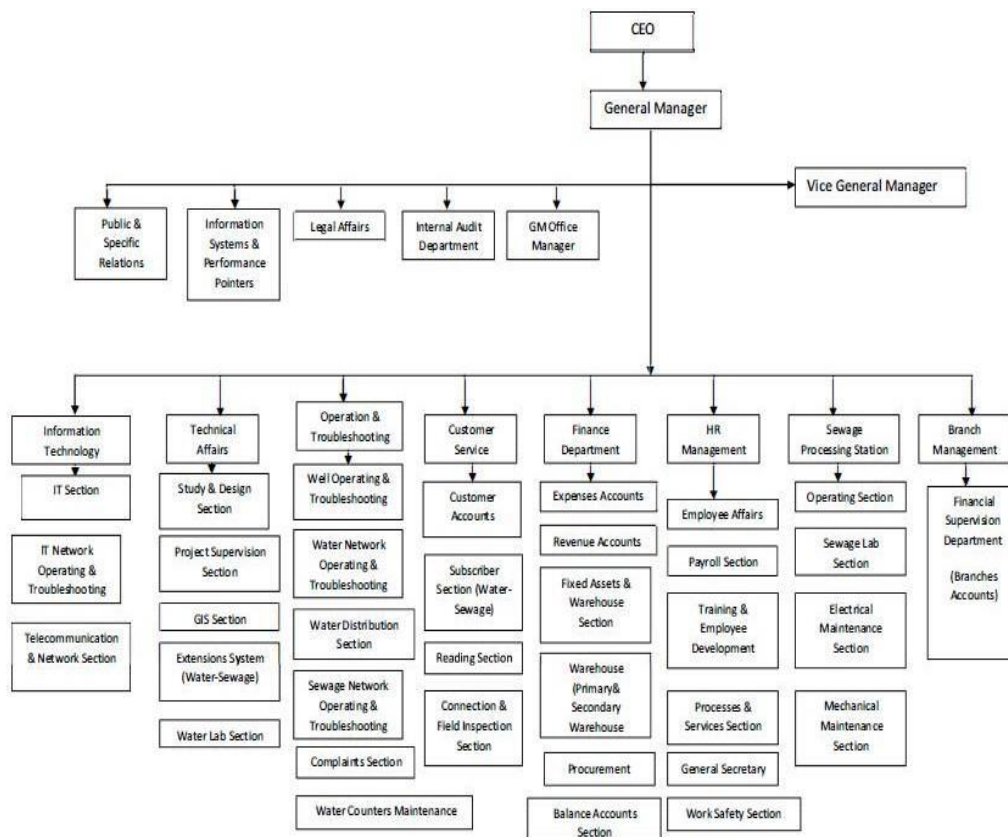
3.1. Governance / Management

The BoD is composed of stakeholders in the central government, the local authority, the private sector, and the beneficiaries. The board consists of 8 members. The BoD met two times in 2019 the guidance and control of the utility through the Boards had been existing during 2019.

3.2. Organization / Staffing

Since 2012, the LC has adopted an organizational structure with defined tasks and roles that was approved by its BoD and the Ministry of Water and Environment (MoWE) but this organizational structure has not been approved by the Ministry of Civil Service and Insurance (MoCSI). The current organizational structure, as presented in figure 3.

Figure 3: Organizational Structure of Ibb LC



The LC employs a total staff of 318 (incl. contracted and day workers) in 2019 there is a change in the staff number incising by 55, the LC is currently slightly overstaffed with 10 employees per 1,000 water and sanitation connections and this is higher than the NWS SIP (09/2007) benchmark of 7 staff per 1,000 connections.

Key parameter	Unit	DAS III	2019	% of Female to Total staff
Total staff (incl. contracted and day workers)	nos	263	318	6%
Nos. of staff per 1000 connections	nos/1000	9	10	-

3.3. Finance / Customer

The latest financial statements of the Corporation were audited by (COCA) were for the year 2014. In 2019, the financial indicators showing that the financial capacity has been deteriorated as the collection efficiency has decreased from 92 % in 2017 to 79% in 2019 as a result of the deteriorated relationship between customers and Ibb LC due to the decrease in water availability (Ipcd).

Even though the LC has increased the current tariff that increased the water billed amounts by 57% in 2017, its total revenues can only cover 77% of the operational costs while its actual collected revenues can only cover 61%. Total operational cost increased by 128% due to the rise in fuel cost by 241% and the total cost of salary also increased by 12% as a result of increasing the number of staff in 2019.

Table 8: Financial summary of Ibb LC

Key parameter	Unit	DAS III	2019	Improvement /Deviation %
Total billed	YE R	1,011,900,651	1,591,823,837	57%
Total collected	YE R	927,410,432	1,265,350,255	36%
Collection efficiency	%	92%	79%	-14%
Total billed	m3	3,948,691	3,689,261	-7%
Total revenues	YE R	1,039,454,292	2,006,971,391	93%
Total O&M cost	YE R	930,453,640	2,071,710,494	123%
Electricity and fuel cost actual	YE R	321,755,794	1,098,006,562	241%
Salary expenses actual	YE R	389,932,963	435,059,204	12%
% Salaries for the total cost	%	42%	21%	-50%
% of Electricity and fuel of the total revenues	%	31%	55%	77%
% of collection coverage of expenditures	%	100%	61%	-39%
Deficit YER		81,447,011	-479,886,657	-689%
Date of last financial statement by an external auditor (COCA)		For the year 2014	For the year 2014	

3.4. Information systems for Operation and Maintenance Support.

The LC has been using an Operation Management Support (OMS), introduced by GIZ programme since

2003. The available system is for billing, accounting, inventory control, fixed assets, Performance Information Indicator System (PIIS), and payroll (salaries).

The systems are slightly improved with the GIZ support, which included technical support to maintain the system as well as provisions of servers and mobile billing devices to enable the system continuity and functionality.

Table 9: Shortcomings and recommendations for Ibb LC's institutional measures

Department	Shortcomings	Recommendations
Governance / Management	Lack of governance, accountability, guidance by the BoD.	Capacity training of management and BoD. Initiation of regular meetings and coaching platform.
Organization / Staffing	Low qualification and skills of some employees. No awareness of responsibilities and tasks. Incomplete contingency plan for emergency and disasters.	Training for key staff on technical and customer issues. Preparation of job description. Preparation of contingency plan for emergency and disasters.
Finance / Customer	Low collection efficiency in number of paying subscribers.	Follow up on unpaid bills. Introduce mobile collection devices. Agreement with MoF to pay debts directly to LC.
IT	Outdated desktops and laptops. Lack of functional servers and printers. Limited electricity supply.	Procurement and installation of hardware and software, server, printer, Solar system, air condition. Training on applications.

4. Mukalla Water and Sanitation LC

The Hadramout Water Supply and Sanitation Local Corporation (coastal areas) was established by a Republican Decree No. (18) of 2001 as the official public body for water supply and sanitation services in the urban coastal areas of Hadramout Governorate. However, the LC services cover only the city of Mukalla as well as the utility of Al Shehr. Both cities represent about 28% of the total population in Hadramout Governorate.

The city's main water resource is ground water. The water system has a total length of 1,045 km and comprises 80 water wells and 5 major wellfields. The overall nominal water production of the well-fields is 16.7 million m³ per year. The sanitation system consists of 148 km sewerage network and one treatment plant with a daily capacity of 15,000 m³.

Table 10: Water and sanitation services overview of Mukalla LC (2014-2017)

Key parameter	DAS III		2019	Improvement /Deviation %
	2014 (prior to crisis)	2017 (current situation)		
Population Mukalla City	322,353	351,427	415,643	18%
No of Water connection	45,403	48,403	54,580	13%
Water Coverage Mukalla City	300,568	320,428	382,060	19%
water service coverage	93%	91%	92%	1%
No of Waste Water connection	30,871	32,714	35,855	10%
Population connected (sanitation)	204,366	216,567	250,985	16%
Sanitation coverage	63%	62%	60%	-3%
Water production m ³	14,860,193	14,666,771	17,899,136	22%
Billed water m ³	8,390,685	7,974,426	12,448,427	56%
Non-revenue water	40%	42%	30%	-12%
water consumption lpcd	78	70	89	28%

The water service coverage is improved by 19% in 2019 with 13% increase in the number of water connections. The increase of the water service seems in alignment with the increase of the population (18%) in Mukalla city. This also is accompanied with an increase in the water production by 22% and an increase of the water consumption- lpcd (per capita demand per day) from 70 liters per individual in 2017 to 89 liters in 2019

These improvements in 2019 attributed to donor support and interventions; the World Bank in particular, that contributed to the restoration and improvement of the water and sanitation services in Mukalla city as evident from the increase of water production from 14.6 million m³ in 2017 to 17.9 million m³ in 2019 (22% increase) and the decline of Non-Revenue Water (NRW) by 12%.

4.1. Governance / Management

The BoD is composed of 8 members who represent the central government, the local authority, the private sector, and the local beneficiaries. No meetings took place in 2019 as the result of the conflict. Therefore, the guidance and control of the utility through the Boards had been considerably neglected during the last years.

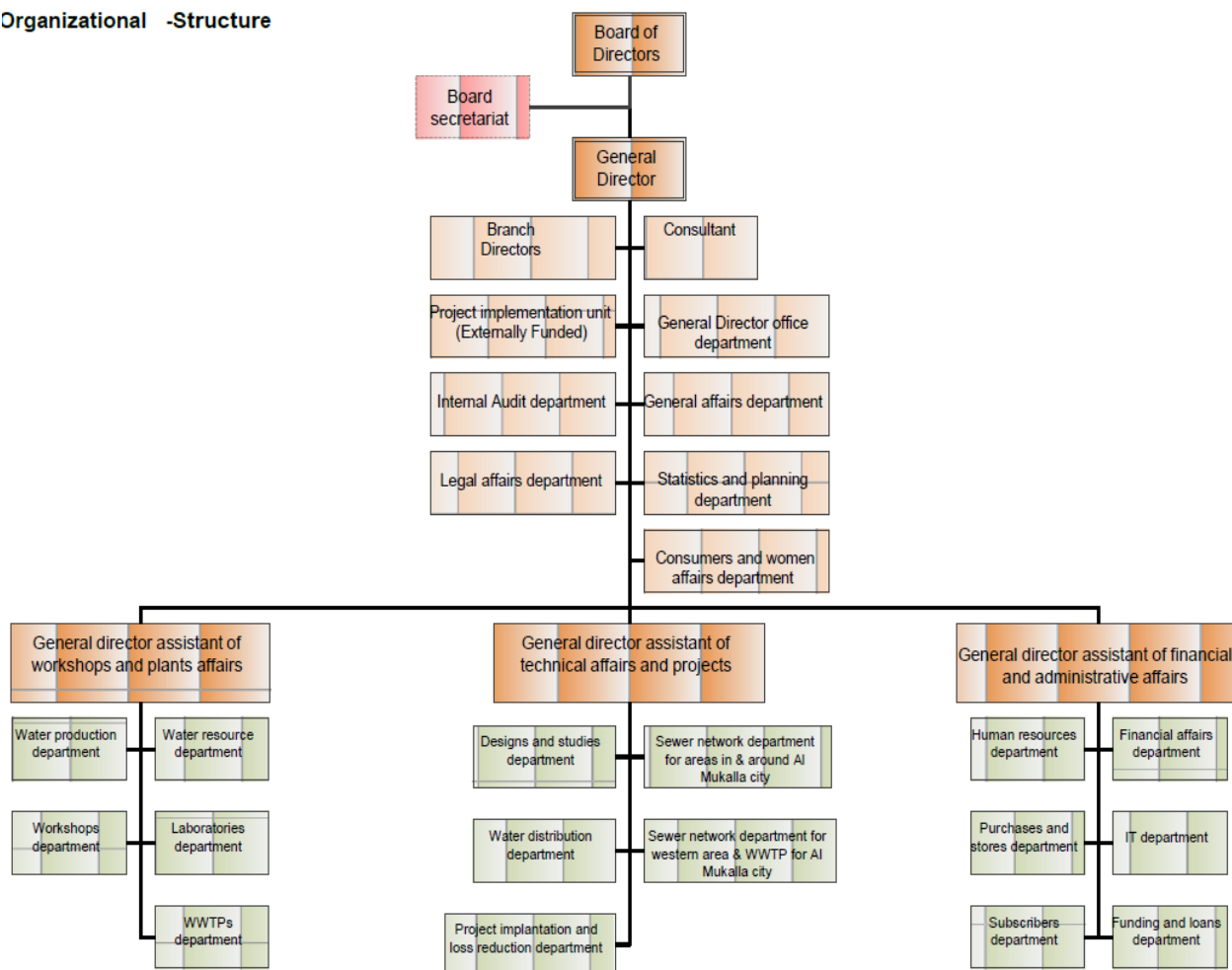
4.2. Organization / Staffing

Since 2012, the LC has adopted an organizational structure with defined tasks and roles that was approved

by its BoD and the Ministry of Water and Environment (MoWE) but this organizational structure has not been approved by the Ministry of Civil Service and Insurance (MoCSI). The current organizational structure, as presented in figure 4.

Figure 4: Organizational Structure of Mukalla LC

Organizational -Structure



As of 2019, the LC employs 846 staff including contracted and day workers and this represents a slight increase of 74 in the total number of staff from 2017. The LC is currently overstaffed with 16 employees per 1,000 water and sanitation connections and this is higher than the NWS SIP (09/2007) benchmark of 7 staff per 1,000 connections.

Key parameter	Unit	DAS III	2019	% of Female to Total staff
Total staff (incl. contracted and dayworkers)	Nos	774	846	4 %
Nos. of staff per 1000 connections	nos/1000	16	16	-

4.3. Finance / Customer

The latest financial statements of Mukalla LC were audited by the Central Organization for Control and Auditing (COCA) in 2016. In 2019, the financial indicators show remarkable improvements mainly due to the notable increase of the total revenues by 188% and the increase of the payment collection by 4%. However, the financial capacity has been deteriorated as the cost recovery (collected payments as a percentage of total cost) decreases from 66% in 2017 to 44% in 2019. This deterioration is also attributed

to the increase in fuel cost by 155% and the increase of salaries and wages by 50% in 2019 as per the decision of the Central Government to increase the wages of all public employees by 32%.

Table 11: Financial summary of Mukalla LC

Key parameter	Unit	DAS III	2019	Improvement /Deviation %
Total billed	YER	1,423,439,366	1,972,034,291	39%
Total collected	YER	1,106,115,635	1,597,347,776	44%
Collection efficiency	%	78%	81%	4%
Total revenues	YER	1,188,860,863	3,423,602,245	188%
Total O&M cost	YER	1,684,347,000	3,661,978,850	117%
Electricity and fuel cost actual	YER	292,337,000	746,455,855	155%
Salary expenses actual	YER	1,087,754,000	1,629,666,995	50%
% Salaries for the total cost	%	65%	45%	-31%
% of Electricity and fuel of the total revenues	%	25%	22%	-11%
% of collection coverage of expenditures	%	66%	44%	-34%
Deficit YER	YER	-260,907,634	-1,689,944,559	548%
Date of last financial statement by an external auditor(COCA)		For the year 2014	For the year 2017	

4.4. Information systems for Operation and Maintenance Support.

The available system is for billing, accounting, inventory control, fixed assets, Performance Information Indicator System (PIIS), and payroll (salaries). Since 2000, the system has been issuing regular cycles of financial and management reports but does not include a GIS functionality. GIZ has provided technical support to maintain the system as well as a server and a printer for billing to enable the system continuity and functionality.

5. Taiz Water and Sanitation LC

Taiz Water and sanitation Local Corporation was established by a Republican Decree no. (20) of 2001 as the public body for water supply and sanitation services in Taiz city. The decree that identifies the tasks and responsibilities of all involved bodies. (MWE), Board of D (BoD) and the LC management.

As the result of the ground fighting in Taiz city, the city has been divided into two sections controlled by the conflicting parties. A frontline has established in the city causing people to take up to 8 hours to travel from side to another instead of the usual 10 minutes trip before the conflict. The population of the area served by Taiz LC includes 654,330 inhabitants (2017) while only 38% of them are covered with public water supply connections and 30% with sewerage service.

The main water resource is groundwater, which is obtained from 86 wells:

- ☐ 39 of them are located within the town (inside residential neighborhoods),
- ☐ 23 in well field in Al-Haima, Habir & Shib Alrayhan areas north of Taiz city,
- ☐ 9 in Al Thabab well field west of Taiz city and
- ☐ 15 in Al-Hwjala - Al-Amerah well field.

The nominal annual water production for Taiz city comes from:

- ☐ The Middle City well fields is 1,784,592 m³,
- ☐ The Al-Haima , Habir & Shib Alrayhan well field 2,892,672 m³

- The Al-Thabab well field 1,539,648 m³,
- The Al-Hwjala - Al-Amerah well field 1,726,272 m³.

The households are served with water through transmission and distribution pipelines with a total length of 804 km. The sanitation system consists of about 241 km sewer network. The wastewater treatment plant in is in Al Buraihi.

Table 12: Water and sanitation services overview of Taiz LC (2014-2019)

Key parameter	DAS III		2019
	2014 (prior to crisis)	2017 (current situation)	
Population Taiz City	633,075	654,330	654,467
No of water connection	52,124	52,124	53,162
Water service coverage	80%	38%	N.A
No of wastewater connection	42,734	42,712	44,887
Sanitation coverage	70%	38%	N.A
Water production m ³	5,238,858	1,806,204	2,520,000
Billed water m ³	3,676,672	N.A	N.A
Non-revenue water	30%	N.A	N.A
water consumption lpcd	19	N.A	N.A

Water supply has been the most pressing problem in the city of Taiz even prior to the conflict. Since mid-March 2015, the conflict has devastated much of Taiz city including most of the water and sanitation infrastructure. The LC common water resources are outside the affected areas the LC is unable to transfer the water to the conflict zones inside the city. Subsequently, the LC is unable to supply water to areas within the conflict zones. However, each conflict zone has its own water wells, but these are shut down due to unavailable generators and fuel resources. It was agreed by the Humanitarian Organization to focus on supporting drinking water supply after each group confirmed acceptance to allow for operating water wells within each group's-controlled area in order to supply citizens of the same area with water.

5.1. Governance / Management

Currently and as the services area is divided into two sides: Al-Hawban and sieged city, there are two separate managements of the LCs; one for each side. Few employees have resumed the work on both sides for water supply and production, water distribution, as well as some financial and administrative tasks. Out of 835 employees that the LC used to have, there are 316 employees in 2019.

5.2. Finance / Customer

Limited financial activities have been carried out such as partial salary payment, collection of some revenues, and supervision of received humanitarian aid and support. Since the available data cannot be validated, it is a bit difficult to update the financial capacity of Taic LC at the present time.

Table 13: Financial summary of Taiz LC

Key parameter	Unit	DAS III	2019
Total billed	YER	758,811,431	703,434,600
Total collected	YER	310,720,245	27,363,108
Collection efficiency	%	41%	4%

Total revenues	YER	758,811,431	523,214,712
Total O&M cost	YER	186,432,148	1,362,167,040
Salary expenses actual	YER	186,432,148	777,264,000
Date of last financial statement by an external auditor (COCA)		For the year 2013	For the year 2013

5.3. Information systems for Operation and Maintenance Support.

Due to the destroyed and looted offices, it was not possible to return back to normal working conditions. The IT manager maintains the latest copy of the database and a copy of the software and applications on his laptop. GIZ had provided technical support before the conflict to maintain the system as well as server to enable the system continuity and functionality.

Climate

Yemen is a largely arid sub-tropical country with rainfall characterized by seasonally intense and short-lived heavy storms that often lead to flash floods with implications for soil erosion and degradation of agricultural terraces. Heavy rainfall is frequently followed by long dry periods. Although high year-to-year variability makes it difficult to detect a trend in precipitation, summer precipitation totals appear to have declined across the Yemen Highlands since the 1950s, although local data for Yemen are lacking, and there are inconsistencies between data sets.

Climate-related hazards in Yemen include extreme temperatures, floods, landslides, sea level rise, sea water intrusion and drought. Most of these risks exacerbate the country's water scarcity, pose serious threats to development and food security, and their intensity and frequency are likely to increase due to climate change.

Climate change challenges ^{37,38,39}

Climate change poses a significant threat to Yemen's development across many sectors. Challenges include: (a) Short-burst, intense rainfall which often leads to flash floods, which can result in significant damage and high losses in urban areas due to their concentrated physical assets and population. Rainfall intensity, and therefore flooding, is projected to increase with climate change; (b) Greater rainfall variability could result in prolonged drought periods. Yemen's water crisis ranks among the worst in the world, and water stress is observed to be increasing, with groundwater reserves likely to be mostly depleted in two to three decades regardless of climate change; (c) A vast majority of the urban poor is vulnerable to rockslide and landslide risk as they typically live on marginal and environmentally sensitive land; and (d) A rise in sea levels would result in increased coastal flooding and possible damage to infrastructure and groundwater quality and supply. In response to these threats, improved urban infrastructure, water and waste management are key priorities. The project will help mitigate the potential impacts of these threats in relevant activities.

³⁷ World Bank Group. Climate Change Country Brief: Yemen. Retrieved from <http://globalpractices.worldbank.org/climate/Pages/CountryBriefs/Yemen.aspx>

³⁸ World Bank Group. Climate Change Knowledge Portal: Yemen Dashboard. Retrieved from http://sdwebx.worldbank.org/climateportal/index.cfm?page=country_historical_climate&ThisRegion=Asia&ThisCCode=YEM

³⁹ World Bank Group. (2011, April). Climate Risk and Adaptation Country Profile: Yemen.

Chapter 6.

Potential Environmental, Social, Risks, Impacts, and Mitigation

This chapter identifies the potential Environmental, Social (including labor), Health, and Safety (ESHS) risks and impacts associated with Project activities, and the matching mitigation measures. The project's Component 2 activities will have strong positive environmental, social, and health impacts by improving access to WASH services and enhancing the capacity of local institutions. Health and environmental impacts are generally small in size and should cause only minor negative environmental impacts that can be readily addressed through proper design, construction, and operation and maintenance.

Component 2 of the Project will not finance activities that involve permanent land acquisition causing physical or economic displacement. Moreover, local contractors are expected to conduct all works using workers that already reside in the cities where the works are conducted. Subprojects should trigger minimal labor influx, and contractors are not expected to build or operate residential labor camps to host such workers.

The selection of activities will be based on the priority needs to be identified by UNOPS, in consultation with the LCs, relevant DLAs, and local communities. The Project will only rebuild, restore, or rehabilitate existing WASH infrastructure. There will be no expansion of existing facilities nor the creation of new ones, and rehabilitated facilities will be handed back to the competent authorities.

Nonetheless, the environmental and social risk rating of the Project is substantial because Component 2 involves reconstruction and rehabilitation works that will involve excavation and earthworks. These activities might cause risk and impacts on workers, communities, as well as the environment, if sufficient mitigation measures do not accompany their implementation.

The environmental risks and impacts of this project are rated 'Substantial' given the nature and scale of the proposed rehabilitation works of water and sanitation systems under Component 2. Environmental risks and impacts which are expected under this project may include: noise, dust, waste generation, as well as workers safety including occupational health and safety due to the civil work for WASH service rehabilitation. The environmental risks and impacts are expected to be site-specific, reversible, and of low magnitude that can be mitigated following appropriate measures. To mitigate potential environmental risks and impacts, an Infection Prevention Control will be implemented to manage the risk and to limit the spread of COVID-19 during the project's activities. In addition, site-specific Environmental and Social Management Plan (ESMPs) will be prepared to mitigate the environmental and social risks associated with the WASH facilities rehabilitation activities and civil works including clauses for contractors.

The project is expected to have localized impacts to the community that could be caused by civil works (earth-moving) during implementation. These impacts could include effects on health and safety of the workers and the local communities, traffic blockage, disturbance to pedestrians and access to homes and daily livelihood activities, and others like underground infrastructure and services disturbance such as electricity and telecommunication underground cables.

Additional project risks could be attributed to COVID-19 infection and its spread during consultations and other project activities if no sensitive measures are applied. The project will follow WHO guidelines and advisories, as well as the World Bank advisory note on public consultations and stakeholder engagement in the current COVID-19 pandemic situation. Mitigation measures to be applied include

raising awareness of measures to prevent against COVID-19 transmission among workers, vaccination and provision and monitoring use of masks and appropriate PPEs, hand sensitizers and hygiene practices.

The project will address these risks and will incorporate the required environmental and social considerations and interventions into its project component design. Inclusion and gender considerations will be mainstreamed in the project design and implementation. It will apply and require contractors to apply the project UN Code of Conduct (CoC), or their own as long as it is reviewed and determined to comply with the same minimum standards on social and environmental safeguards and national laws and legislation. The agencies will apply the GBV/SEA/SH Action Plan to mitigate related risks during the project activities; a stakeholder engagement plan has been prepared to address stakeholder risks and promote stakeholder engagement under the project; Labor Management Procedures (LMP) will address labor risks among the project workers.

6.1 Selection, design and siting risks

A first tier of risks concerns the selection, design, and siting of subprojects. These risks include inherent security risks, the risk that that the targeted infrastructure might carry social or environmental legacy issues, the risk that contract awards might disadvantage certain groups, and the risk that the rehabilitated services do equally provide services, particularly to vulnerable groups or persons. These risks would be addressed by avoiding insecure areas, identifying legacy issues during the screening process, inclusive contracting, and ensuring equal access to subproject benefits. No legacy issues are anticipated, and none were encountered during YIUSEP1.

6.2 Contractor Related Risks and Impacts

The second tier of risks is directly associated with the construction and rehabilitation activities of the contractors who will rebuild, rehabilitate, and restore the targeted WASH facilities. These risks represent the ***bulk of the ESHS risks and impacts risks and impacts of Project activities***. Although the risk profile might differ between specific activities, the overall risk profiles of construction activities are analogous for Component 2. These risks and the relevant ESSs are detailed in the following table.

Table 14: ESHS risks and impacts associated with the activities of Contractors

Environmental Assessment	
Management of Contractors	
<ul style="list-style-type: none"> Construction activities could have environmental and social impacts if risks were not identified and the environmental and social risks and impacts of sub-projects not evaluated or managed in a manner consistent with the ESSs. 	ESS1
Construction Site Management	
Vegetation	
<ul style="list-style-type: none"> Construction activities can unnecessarily destroy, scar, or deface the natural surroundings in the vicinity of the construction site 	ESS6
Damage to Existing Installations	
<ul style="list-style-type: none"> Existing installations, such as buildings, structures, works, pipes, cables, sewers, or other services may be damaged 	ESS4
<ul style="list-style-type: none"> Owners, tenants or occupiers of properties may be disturbed or inconvenienced by the construction works 	ESS4
Waste from Construction Activities	
<ul style="list-style-type: none"> Construction debris and spoils might contaminate soils and groundwater 	ESS3
<ul style="list-style-type: none"> Transport of waste might litter roads 	ESS3
<ul style="list-style-type: none"> Solid waste and debris might be disposed improperly 	ESS3
Air Pollution	
<ul style="list-style-type: none"> Air pollution due to emissions from dust, construction vehicles and equipment 	ESS3
<ul style="list-style-type: none"> Dust generation during excavation, backfilling, compaction, or transportation of construction materials can affect the wellbeing of neighboring communities 	ESS4
Hazardous and Toxic Waste	
<ul style="list-style-type: none"> The production of liquid wastes can lead to soil or groundwater pollution 	ESS3
<ul style="list-style-type: none"> Hazardous, or potentially hazardous, wastes from construction debris or the use of chemicals can spill into the environment 	ESS3
Area Signage	
<ul style="list-style-type: none"> The absence of appropriate signage and precautionary measures can lead to accidents 	ESS2, ESS4
Borrow Pits and Quarries	
<ul style="list-style-type: none"> Quarry operations will produce noise and dust that will impact on nearby inhabitant 	ESS4
<ul style="list-style-type: none"> Quarries used by primary suppliers could lead to the significant conversion or degradation of natural or critical habitats 	ESS6
<ul style="list-style-type: none"> Improperly sited quarries can pollute the ground and surface water 	ESS3
<ul style="list-style-type: none"> Unfenced borrow pits and quarries are a hazard to people and livestock 	ESS4
<ul style="list-style-type: none"> Blasting operation can damage property. 	ESS4
<ul style="list-style-type: none"> Borrow pits and quarries can deface the landscape 	ESS3, ESS4
Decommissioning of Camps, Worksites and Plants	
<ul style="list-style-type: none"> Construction sites might include contaminated patches, waste, and abandoned equipment that are a health hazard to neighboring communities 	ESS3, ESS4
Health and Safety	
Severe Weather and Facility Shutdown	
<ul style="list-style-type: none"> Workers can be injured or become ill if required to work in severe weather 	ESS2
Lavatories and Showers	
<ul style="list-style-type: none"> Inadequate lavatories and showers can lead to worker illness or disease 	ESS2
Potable Water Supply	

<ul style="list-style-type: none"> Inadequate supply of potable water on site can lead to worker illness and disease 	ESS2
Clean Eating Area	
<ul style="list-style-type: none"> The absence of a clean eating area can lead to worker illness and disease 	ESS2
Personal Protective Equipment (PPE)	
<ul style="list-style-type: none"> The lack of appropriate PPE, and of training in its use, can lead to injuries 	ESS2
Noise	
<ul style="list-style-type: none"> High noise levels can permanently affect the hearing of workers Increased levels of noise and vibration due to heavy vehicles and construction equipment, which are a nuisance to the community around the site 	ESS2
Working in Sewers	
<ul style="list-style-type: none"> Working in sewers can lead to suffocation and even death, if the necessary precautions are not taken 	ESS2
Communicable Diseases	
<ul style="list-style-type: none"> Construction site can facilitate the spread of communicable diseases 	ESS2, ESS4
COVID-19	
<ul style="list-style-type: none"> Construction sites can increase the spread of COVID-19 	ESS2, ESS4
Vector-Borne Diseases	
<ul style="list-style-type: none"> Poorly managed construction site can favor vector borne diseases, particularly if pools of stagnant water are not avoided 	ESS2, ESS4
Road safety and Traffic Safety	
<ul style="list-style-type: none"> Project related traffic can cause accidents 	ESS2, ESS4
Cultural Heritage	
<ul style="list-style-type: none"> Project activities might unearth unknown cultural heritage (chance finds) Project activities might indirectly affect existing cultural heritage, for example by cracking masonry 	ESS8 ESS8
Emergency Preparedness and Response	
<ul style="list-style-type: none"> Lack of preparation can seriously increase the negative impact of an emergency 	ESS4
Stakeholder Engagement	
<ul style="list-style-type: none"> The lack of engagement with neighboring communities affected by Project activities might cause tensions, and result in complaints 	ESS10
Labour Force Management	
Labour Influx	
<ul style="list-style-type: none"> Labor influx to work on Project activities can have major negative impacts on local communities 	ESS2, ESS4
Labor Conditions	
<ul style="list-style-type: none"> Contractors might not provide workers with the terms and conditions they are entitled to under Yemeni Labor Legislation, most particularly Decree 5/1995, and applicable International Labour Organization conventions on workplace conditions. 	ESS2
Insurance	
<ul style="list-style-type: none"> Contractors might not compensate workers and their families for workplace injuries or deaths 	ESS2
Grievance Mechanism for Workers	
<ul style="list-style-type: none"> Contractors might not act on worker grievances 	ESS2
Protection from Sexual Exploitation and Abuse	
<ul style="list-style-type: none"> Workers might sexually abuse or exploit women or children 	ESS2, ESS4
Protection from Child Labor	
<ul style="list-style-type: none"> Contractors might unknowingly employ workers under the age of 18. 	ESS2

Code of Conduct	
<ul style="list-style-type: none"> The behavior of workers can be prejudicial to neighboring communities, and to fellow workers 	ESS2

These construction-related risks will be mitigated by requiring that contractors meet a detailed set of Environmental, Social, Health, and Safety (ESHS) requirements⁴⁰ that match the risks and impacts listed in the above table, as detailed in Annex 5. The Requirements are largely based on the General EHS Guidelines, and other World Bank Guidelines. UNOPS and its Implementing Partners will include the Project’s ESHS requirements in all bidding documents and contracts for works. UNOPS will also prepare safety manuals or handbooks for contractors as required.

6.3 Sector Specific Risks and Impacts

- The third tier of risks are sector specific and not related to contractor led activities. Some are associated with the technical design of the facilities, while some are potential risks and impacts associated with the operation of the facilities once they are rehabilitated.
- UNOPS will ensure that UWS-PMU implement water and sanitation subprojects in accordance with the WB EHS Guideline for Water and Sanitation⁴¹. The following table details the main non-contractor related risks and impacts that UWS-PMU might need to address, as well as matching mitigation measures, if the Component 2 was to finance an urban water and sanitation subprojects. The sector specific risks and impacts are additional to the generic contractor related risks and impacts described in Table 4.

⁴⁰ Some of the ESHS requirements might not become relevant during Project implementation, for example the requirements for the management of worker camps or labor influx

⁴¹ www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines

Table 15: Potential impacts and matching mitigation measures for water and sanitation subprojects

Potential Impact	Mitigation Measure
Improved water supply can increase the quantities of wastewater	UNOPS will ensure that the water supply subprojects are accompanied by sanitation subprojects, if the increased wastewater exceeds current capacity
Improvements in the sewerage system could, in the absence of sufficient treatment, increase the discharge of untreated or inadequately treated wastewater (domestic, municipal and industrial), contaminate ground, surface and coastal waters, or increase the incidence of cholera and dysentery	UNOPS will ensure that subprojects that result in an increase in collected wastewater are accompanied by measures to handle the increase UNOPS will ensure that its sanitation subprojects provide for the safe final disposal of effluents from treatment ponds or reuse with extreme precaution to avoid direct contact with humans or animals. As necessary, UNOPS and its Implementing Partners will provide training to selected members of the community on health and hygiene issues
The rehabilitation of wastewater treatment plants will produce treated sludge that must be properly managed and disposed safely.	UNOPS will ensure that any subproject resulting in increased treated sludge includes measures to properly dispose of the sludge safely, in accordance to the WBG EHS Guidelines for Water and Sanitation if agricultural use of sludge is envisaged, UNOPS will encourage the MWE /LCs as responsible for operating the target WWTP to apply FAO guidelines for Agricultural use of sewage sludge (http://www.fao.org/3/t0551e/t0551e08.htm)
Temporary stagnant ponds might be breeding sites for disease vectors.	UNOPS will take necessary actions to pump and suction any overflow nearest manholes or chambers to fight disease vectors for any stagnant pool resulting from one of its subprojects, including the use of insecticides.
Temporary loss of income and disruption of economic activities/ businesses because of Project activities.	UNOPS will take all appropriate measures to compensate affected parties, as per the Project Resettlement Framework
Untreated or inadequately treated wastewater might be reused for agriculture, particularly by the poorer segments of the population.	UNOPS will only go forward with the subproject if the risk can be addressed as recommended by the World Health Organization's (WHO) ⁴² .
Because of limited availability, increased water supply to cities might affect existing agricultural use	UNOPS will not go forward with a water supply subproject if it creates a water conflict.
Demand side management and efficient allocation of water by the LCs might be necessary to conserve scarce water resources, but could lead to higher prices for poorer segments of the population. Furthermore, cost recovery for sanitation and wastewater treatment services may adversely impact the poorer segments of the society	UNOPS will ensure that any Technical Assistance regarding tariffs for water supply (production distribution and maintenance) or sanitation (including sewer networks, wastewater treatment, and maintenance) promotes measures that do not adversely impact the poorer or vulnerable segments of the population.
Rehabilitated wastewater treatment plants might positively impacting neighboring communities that have expanded over the years, for example by reducing unpleasant odors reducing property values	<ul style="list-style-type: none"> Depending on the scope of the issues, UNOPS will explore whether it can implement sufficient mitigation measures to address the concerns of these neighboring communities. UNOPS will not go forward with the subproject if it cannot implement sufficient mitigation measures. UNOPS will conduct public awareness and communication campaigns.

⁴² Health guidelines for the use of wastewater in agriculture and aquaculture (WHO Technical Report Series, No. 778, 1989).

OHS and health & safety risk are potential impact of proposed interventions.

- Appropriate and well-defined health and safety measures and OHS requirements will be strictly applied.

Water Distribution

UNOPS will ensure that UWS-PMU apply the following measures during the rehabilitation of water distribution systems that is supported by Component 2 of the Project.

- Maintain adequate pressure to protect water quality in the system disinfections.
- Implement a leak detection and repair program (including records of past leaks and unaccounted-for water to identify potential problem areas).
- Consider replacing mains taking in consideration the history of leak.
- Prevent, minimize, and control impacts from flushing of mains.

Waste Water Treatment

UNOPS will ensure that UWS-PMU apply the following measures during the rehabilitation of waste water treatment plants that is supported by Component 2 of the Project.

- Minimize bypass of the treatment system by using separate storm water and wastewater systems, if possible, and providing capacity sufficient to treat peak flows;
- Implement an industrial source control program which includes monitoring and effective regulatory enforcement
- Consider discharge of treated wastewater to natural or constructed wetlands, which can buffer the impact f from discharge on the aquatic environment, unless the wetland itself would be degraded by the discharge
- Treat greywater, if collected separately from sewage, to remove organic pollutants and reduce the levels of suspended solids, pathogenic organisms and other problematic substances to acceptable levels based on applicable national and local regulations
- Greywater lines and point of use stations should be clearly marked to prevent accidental use for potable water quality applications
- Based on an assessment of risks to human health and the environment, consider re-use of treated effluent, especially in areas with limited raw water supplies. Treated wastewater quality for land application or other uses should be consistent with the relevant public health-based guidance from the World Health Organization (WHO) and applicable national requirements.
- Select appropriate sludge treatment technologies, considering, for example, the quantity and sources of sludge; available resources for capital expenditures, training, operations and maintenance; availability of skilled operators, maintenance personnel, etc.; and the desired disposal methods or end uses of the treated solids.
- Consider land application or other beneficial re-use of wastewater treatment plant residuals, but only based on an assessment of risks to human health and the environment. The Quality of residuals for land application should be consistent with the relevant public health-based guidance from the World Health Organization (WHO)⁴³ and applicable national requirements
- Process, dispose of and re-use wastewater treatment plant residuals in a manner consistent with applicable national requirements or, in their absence, internationally accepted guidance and standards

⁴³ WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater (2006).

- Cover emission points (e.g., aeration basins, clarifiers, sludge thickeners, tanks, and channels), and vent emissions to control systems (e.g., compost beds, bio-filters, chemical scrubbers, etc.) as needed to reduce odors and otherwise meet applicable national requirements and internationally accepted guidelines
- Where necessary, consider alternate aeration technologies or process configurations to reduce volatilization.

Sanitation

UNOPS will ensure that UWS-PMU apply the following measures during the rehabilitation of sewers:

- If greywater is managed separate from sewage, implement greywater source control measures to avoid use and discharge of problematic substances, such as oil and grease, large particles or chemicals.
- Investigate upstream sources of pollutants causing treatment plant upsets or interference;
- Consider the installation of separate sewer systems for domestic wastewater and storm water runoff in the overall planning and design of new sewerage systems;
- When on-site sanitation systems where excreta are mixed with water predominate, consider use of small-diameter sewerage system to collect water effluent from septic systems or interceptor tanks;
- Limit the sewer depth where possible (e.g., by avoiding routes under streets with heavy traffic). For shallower sewers, small inspection chambers can be used in lieu of manholes;
- Use appropriate locally available materials for sewer construction. Spun concrete pipes can be appropriate in some circumstances but can suffer corrosion from hydrogen sulfide if there are blockages and/or insufficient slope;
- Ensure sufficient hydraulic capacity to accommodate peak flows and adequate slope in gravity mains to prevent buildup of solids and hydrogen sulfide generation;
- Design manhole covers to withstand anticipated loads and ensure that the covers can be readily replace if broken to minimize entry of garbage and silt into the system;
- Equip pumping stations with a backup power supply, such as a diesel generator, to ensure uninterrupted operation during power outages, and conduct regular maintenance to minimize service interruptions. Consider redundant pump capacity in critical areas;
- Conduct repairs prioritized based on the nature and severity of the problem. Immediate clearing of blockage or repair is warranted where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g., pump station failures, sewer line ruptures, or sewer line blockages);
- Review previous sewer maintenance records to help identify “hot spots” or areas with frequent maintenance problems and locations of potential system failure, and conduct preventative maintenance, rehabilitation, or replacement of lines as needed;
- When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system by covering or blocking storm drain inlets or by containing and diverting the sewage away from open channels and other storm drain facilities (using sandbags, inflatable dams, etc.). Remove the sewage using vacuum equipment or use other measures to divert it back to the sanitary sewer system.

Chapter 7.

Procedures to Address Environmental and Social Issues

This section sets out in detail the procedures to be followed in addressing the environmental and social risks and impacts of subprojects

7.1 Exclusion List

The first step in addressing a subproject's environmental and social risks and impacts is for the ESSO to exclude as **ineligible for UNOPS support** all subprojects that include any of the following attributes:

- Production or activities involving harmful or exploitative forms of forced labor/harmful child labor;
- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements;
- Production or trade in weapons and munitions;
- Gambling, casinos and equivalent enterprises;
- Trade in wildlife or wildlife products regulated under CITES;
- Production or trade in radioactive materials;
- Production or trade in or use of un-bonded asbestos fibers;
- Production or trade in wood or other forestry products from unmanaged forests;
- Production or trade in products containing PCBs;
- Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals;
- Production or trade in pharmaceuticals subject to international phase outs or bans;
- Production or trade in pesticides / herbicides subject to international phase outs or bans
- Production or trade in ozone depleting substances subject to international phase out;
- Production or activities that impinge on the lands owned, or claimed under adjudication, by indigenous peoples, without full documented consent of such people.
- Power plants,
- Large-scale transport infrastructure such as highways, expressways, urban metro-systems, railways, and ports,
- Investments in extractive industries; commercial logging,
- Dams, or projects involving allocation or conveyance of water, including inter-basin water transfers or activities resulting in significant changes to water quality or availability,
- Activities that would significantly convert natural habitats or significantly alter potentially important biodiversity and/or cultural resource areas, and
- Activities that would require the relocation of residential households and/or significant involuntary land acquisition,
- Activities in disputed areas.

7.2 Screening

Within one week of receiving a draft subproject proposal from UNOPS' technical staff or UNOPS' Implementing Partners, the ESSO will prepare, sign, and pass on to the Project Manager, a subproject

specific screening form (Template in Annex 1), indicating:

- (i) The proposed environmental and social risk rating (High, Substantial, Moderate or Low), with justifications
- (ii) The proposed environmental and social risk management instruments to be prepared.

7.3 Environmental and Social Risk Management Instruments

Subprojects requiring a full ESIA and ESMP

The ESSO will determine if the subproject requires a full Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP). When this is the case, the ESSO, in collaboration with the ESSO of the concerned Implementing Partner, will prepare draft ToRs for the ESIA and ESMP as per the templates in Annex 3 and 4. He will then pass on the ToRs to the Program Manager who will submit them to the World Bank for review and clearance.

UNOPS will competitively select consultants to prepare full ESIA and ESMPs for subprojects that require them. The ESSO will supervise their preparation and interact with the consultants. On completion of the instruments, the Program Manager will submit the draft ESIA and ESMPs to the World Bank for their review, clearance and disclosure.

Subprojects only requiring an ESMP

Proportionate ESMPs for subprojects not requiring a full ESIA and ESMP will be prepared either by the UNOPS ESSO, for subprojects directly implemented by UNOPS, or by the ESSO of each Implementing Partner, for the subprojects they will implement. A subproject's ESMPs must be prior reviewed and cleared by the World Bank before a subproject can be implemented. The UNOPS ESSO will review and ensure the quality of all ESMPs before they are sent to the Bank by the Project Manager.

The proportionate ESMPs will be prepared according to the following table of content:

Summary Sheet

Subproject Name	
Subproject Location	
Implementing Partner	
Risk level (low, moderate, substantial or high)	
Date of the field visit	
Consultation Summary	
Observations/Comments	
Signature of responsible ESSO	
Date	

Subproject Description

- Nature and scope of activities, particularly construction and rehabilitation works. Include all the technical details that are relevant to understand the environmental and social risks and impacts of the subproject

- Location, including a map. If the subproject includes multiple locations, then the particulars of each location must be provided.

Environmental and Social Baseline

- Provide all the necessary information required to understand the environmental and social risks and impacts of the subproject.
- Provide enough pictures to illustrate environmental and social issues, with appropriate legends.

Consultations

- Document all consultations with stakeholders likely to be affected by the subproject (date, location, list of participants, topics discussed, and conclusions). The consultations must include the persons that might be negatively affected, and not only beneficiaries or interested and concerned parties.
- Join photos of the consultations
- Detail the grievance mechanism procedures specific to the subproject

Mitigation Instruments

- Refer to the Environment, Social (including labor), Health, and Safety requirements (Annex 5) and attach them to the ESMP
- Highlight the ESHS requirements to which subproject contractors must pay the greatest attention. If necessary, the ESMP will “proportionalize” the ESHS requirements to the subproject’s nature, scope, the specific environmental and social risks, and the number of workers involved. For example, UNOPS might need to specify for small contracts the type of PPE, or the contents of First Aid Boxes.
- If necessary, indicate additional requirements that will be applicable to the subproject contractor.
- Indicate the mitigation measures that UNOPS and its Implementing Partners will be implementing to address the environmental and social risks and impacts not associated with contractors (see section 6.2 of this ESMF), including legacy issues, and technical assistance.
- Provide a subproject specific monitoring plan that indicates what parameters will be monitored, how they will be monitored, who will monitor them, and how frequently they will be monitored.
- Detail any training provided by UNOPS to the contractors and their workers.

Budget

- Provide a budget for the mitigation measures to be implemented by UNOPS and its implementing partners. The cost to contractors of meeting the ESHS requirements will be included in their respective contracts.

7.4 Incorporating ESHS requirements in contracts⁴⁴

UNOPS or its Implementing Partner will ensure that:

- Requests for Proposals reference the ESHS requirements in Annex 5
- Bidders submit a preliminary environmental and social plan as part of their bids, describing the principles and methodology they will use to address environmental, social, health and safety

⁴⁴ UNOPS will also require all contractors to meet its GHS guidelines, although they might not be explicitly mentioned in contract conditions.

issues under the contract, and will include all costs associated with managing environmental and social issues in their bids.

- The quality of the preliminary environmental and social plan, the bidders' past environmental and social performance, and their ability to manage environmental and social issues will be considered in the selection of contractors.
- The selected contractors will prepare a Contractor Environmental and Social Management Plan (C-ESMP), detailing how the ESHS requirements will be implemented, including personnel
- It approves the C-ESMP before the start of activities
- C-ESMPs will serve as the benchmark for monitoring and evaluating the contractor's environmental and social performance

7.5 Consultation and Disclosure Requirements

UNOPS has carried out a number of consultations with relevant stakeholders to identify priority WASH needs of 27 preselected areas (11 urban cities and 16 peri-urban and rural areas) under YEHCP with emphasis on the following:

- Supporting national emergency responses to COVID-19 pandemic and flood damages.
- Restoring public services and access to markets with focus on water supply and sanitation services.
- Improving the institutional capacities of local implementing partners and local institutions.
- Ensuring job creation and economic activities for people who lost their works and business as a result of the ongoing conflict, COVID-19, and the flash floods.

Multiple technical consultations and assessments were intensively carried out that aimed at identifying and selecting “urgent” WASH priorities to be implemented in an emergency basis that need to compliment the planned interventions in YIUSEP II. As a result, UNOPS carried out the following main activities:

- Assessing the institutional needs of the urban Water and Sanitation Local Corporations (LCs) while considering the needs of peri-urban and rural LCs.
- Re-assessing the institutional capacity of its Implementing Partners (PWP and UWS-PMU) to implement multiple WB funded projects (i.e. YIUSEP II and YEHCP) simultaneously.
- Identifying WASH priority needs of preselected urban, peri-urban, and rural areas.
- Preparing initial investment plans for the YEHCP WASH Component based on the approved investment plan of YIUSEP II, which targets 11 urban areas out of 27 preselected areas under YEHCP.

Consultations and coordination with line ministries, local authorities, and other development partners also took place to ensure local and national participatory planning in the identification and selection of priority needs. Those consultations were carried out during field missions and official meetings, virtual meetings, and by phone calls between April and May 2021.

UNOPS has carried out consultations with its Implementing Partners (PWP and UWS-PMU) and selected Yemeni civil society organizations to discuss and seek their inputs and feedback on the environmental and social risk management instruments of YIUSEP II and YEHCP. During 28 and 29 April 2021, consultations were carried out with selected Yemeni civil society organizations. These CSOs have strong presence in most of urban cities and rural areas in Yemen and have recognized partnerships with International NGOs and UN agencies such as King Salman Center and UAE Red Crescent and UNDP,

IOM, UNFPA, OCHA, and UN Women. Due to the current COVID-19 situation and the poor internet connection in Yemen, those consultations were carried out by phone.

on 1st of June 2021, UNOPS conducted a consultation meeting with SCAMCHA and the MoWE to inform and discuss: a) the objective and scope of YEHCP, whose Component 2 (WASH component) will be implemented by UNOPS and its local implementing partners, b) the emergency water and sanitation needs of northern governorates, c) YEHCP investment selection criteria in preselected/ targeted areas/sites, and d) enhancing effective coordination between UNOPS, SCAMCHA, MoWE, and local WASH partners.

On 22nd of June 2021, UNOPS conducted a consultation meeting with the Minister of MoWE in Aden and UWS-PMU management team in to discuss the following:

- a. the objective and scope of YEHCP, Component 2 (WASH) will be implemented by UNOPS and its local implementing partners,
- b. the emergency water and sanitation needs across the country and the possibility of updating the investment plan according to the new information and assessment.
- c. YEHCP investment selection criteria in preselected/ targeted areas/sites,
- d. enhancing effective coordination between UNOPS, MoWE, and local WASH partners.
- e. enhancing and building capacity of Aden UWS-PMU, to fulfil the WB ESF new requirements.
- f. the emergency sanitation needs in Aden city.

On 26 July 2021, UNOPS conducted a virtual consultation meeting with the UN national WASH cluster coordinator, sub-national coordinators to inform them about the scope and funding of YEHCP in which UNOPS would implement Component 2 of the project. And to discuss the following points:

- g. WASH Cluster response gaps (extremely underfunded circumstances),
- h. UNOPS priority target areas to address acute WASH response needs in the country,
- i. YEHCP investment selection criteria in targeted areas/sites,
- j. Means to engage WASH Cluster sub-national coordinators in the monitoring of WASH activities,
- k. The inclusion of YIUSEP II and YEHCP progress and achievements in WASH Cluster regular updates/ reports.
- l. Enhancing effective coordination and collaboration among the UN agencies and WASH partners to avoid any potential duplication of efforts.

Despite the emergency situation and the current COVID-19 pandemic, UNOPS consulted with public authorities and the Implementing Partners (PWP and Urban Water and Sanitation PMU), to ensure that Component 2 of YEHCP responds to the identified needs. Further detail regarding consultations during Project preparation are found in the Project Stakeholder Engagement Plan (SEP) and can be summarized as follow:

Ten public consultation workshops with stakeholders were held in different governorates (Sana'a, and Aden) between 9 June and 13 August 2021 to ensure effective stakeholder participation relevant to targeted urban cities and peri-urban and rural areas under the project.. Various stakeholder representatives were

invited and 657 participants attended the consultation workshops; including:

- The MoWE Minister, Vice Minister, and Deputy Ministers;
- The MoHP Minister and Deputy Ministers;
- Water and Sanitation Local Corporations (WSLCs) representatives;
- The Urban Water PMU and its local teams;
- The MoPIC Deputy Minister and General Directors of local offices;
- The SCMCHA General Secretary, Deputies, and General Directors of local offices;
- The MoE Vice Minister and Deputy Ministers
- The MoLA Deputy Minister;
- Governors and their Deputies;
- Local council members and local district General Directors;
- Representatives of local authority, civil society, and women associations; and
- Local IDPs and beneficiaries.

Based on prior official permissions obtained from SMCHA in the North and MoPIC in the South and advance meeting invitations, all consultation workshops were convened as planned in accordance with the following meeting agenda:

- Opening remarks and general introduction to YEHCP.
- Introduction to the project Stakeholder Engagement Plan (SEP).
- Introduction to UNOPS procurement process and eSourcing.
- Q&A session.
- Coffee break.
- Introduction to the Project Environmental and Social Commitment Plan (ESCP) & the Environmental and Social Standards (ESS).
- Introduction to the Project Resettlement Framework (RF) / Environmental and Social Management Framework (ESMF)/ Labor Management Procedures (LMP).
- Q&A session.
- Lunch break

- Introduction to the Project SEA/SH Prevention and Response Action Plan / Grievance Mechanism (GM)
- Q&A session
- The Project investment selection criteria and tentative investment plan / Q&A session
- Closing remarks

All consultation workshops were designed and held to encourage stakeholder feedback and to support active and inclusive engagement with project-affected parties in a documented way free of external interferences in which:

- Arabic language was used with more emphasis on verbal and visual methods.
- Large public and easily accessible venues were used with a gender-sensitive setting with sufficient security requirements.
- Transportation allowances were provided to participants from remote locations.
- Participants were maintained a proper social distance and given masks and hand sanitizers as COVID-19 preventive measures.
- A number of UNOPS qualified female and male staff were presenting and facilitating the consultation.
- Leaflets containing the Project GRM information were also distributed to all participants.
- Evaluation surveys were used during the sessions to get participants' feedback, suggestions and remarks as well as attendance sheets, with attendees' contact details, organization and title.

Schedule of the Consultation Workshop Meetings.

Date	Session	City	Venue	Number of Attendees
Wednesday - June 09, 2021	Session 1	Sana'a	Bustan Hotel - Sana'a	123

Thursday - June 10, 2021	Session 2	Sana'a	Bustan Hotel - Sana'a	80
Tuesday - June 15, 2021	Session 1	Aden	Coral Hotel - Aden	77
Wednesday - June 16, 2021	Session 2	Aden	Coral Hotel - Aden	70
Thursday - June 17, 2021	Session 1	Abyan	Coral Hotel - Aden	90
Monday - June 21, 2021	Session 1	Lahj	Coral Hotel - Aden	76
Wednesday - June 23, 2021	Session 1	Al Dale	Coral Hotel - Aden	71
Wednesday - June 24, 2021	Session 1	Taiz	Coral Hotel - Aden	70

Feedbacks/Concerns, Inquiries and Requests

UNOPS was keen to ensure interactive participation during the consultation sessions; therefore, participants were given enough time to raise their concerns. Below is a brief of some main points highlighted.

Sana'a - June 9, 2021

- An immediate intervention is required for WASH transfer lines in Hamra Alib area.
- Khamar Hospital is in need of support, namely rehabilitation of hospital WASH services in general and intensive care units (ICUs) & surgery / operations rooms in particular. Furthermore, there is a need for provision of beds in ICUs and finding an alternative for hospital power generation, i.e. connecting to the electricity network rather than using generators.
- Dialysis centers are in urgent need of energy and WASH support, especially with the shortage of diesel.
- There was a request to consider other governorates such as Taiz & Ibb in the investment plan.
- Al Hodeidah is one the most governorates which require interventions due to the increasing needs.
- Can UNOPS share with the concerned/related local authorities the designs and technical specifications of the equipment such as pumps and generators prior tendering?
- It was mentioned that community awareness about environment protection and any implemented project is crucial.
- The workshop for equipment maintenance is 65% out of service and is in need of support.
- It was repeatedly requested to allocate a percentage (for instance 12%) of any project budget for other services related to the project being implemented, so as to ensure project effectiveness and sustainability.
- It was asked why not involving local councils at governorate levels. For instance, though the publication of Damage Needs Assessment (DNA), local councils have not received the update for two years. Accordingly, it was requested to involve the local councils and authorities in the Damage Needs Assessment and the digital mapping
- Capacity building for staff should be conducted along with project implementation.
- There was a request for the provision of solar systems for cold chain storage of vaccines.
- It was mentioned that there is not much coverage in Taiz and allocation is little.

Sana'a - June 10, 2021

- WASH infrastructure of Sana'a Old City is old and needs an immediate intervention.
- There was a request for expansion of WASH Services in Al Saila area.
- Local authorities are important partners; do NGOs/Civil Societies have the chance to be partners and implement projects?
- "For All Girls Association" has some projects to be implemented in WASH. How can it cooperate with UNOPS for project execution (cooperation mechanism)?
- Is this consultation meeting aiming to ensure cooperation between NGOs/Civil Societies and UNOPS or just between partners and UNOPS and involving NGOs for awareness about projects and feedback?
- Is there a sustainability plan for projects being implemented?
- Is there a confidentiality and protection policy of callers when reaching UNOPS GRM?
- Do NGOs, local authorities, and Civil Societies have the eligibility to apply for tenders?
- Do UNOPS oblige contractor's personnel to sign code of conducts?

- If a misconduct was done by the contractor or one of his personnel, what are the actions to be taken?
- There are different vulnerable groups who do not have access to their service rights and are not able to pass their complaints. What is UNOPS' role to address this issue?
- There was a request to provide capacity building on GBV.
- Does UNOPS consider the needs for Special Needs Category in sub-projects implementation?
- How does UNOPS involve local communities and beneficiaries in project outcomes?
- How to determine the needs and assess them? Are there selection criteria?

Aden - June 15 & 16, 2021

- There should be a transfer from the emergency phase into the development phase. Sustainability for projects that would have tangible impact. Aden is in need for rehabilitation/reconstruction of WASH infrastructure. There is no pure WASH intervention rather implemented projects are WASH in integration with other sectors such as health.
- There is a clear gap between the local councils and ministries. Sector institutions have to provide their needs separately. There is an exploitation on water selling which should be prevented. Also, capacity building is necessary for staff.
- Intervention of solar systems in school is not enough. There is a need for rehabilitation of schools such as Al Aidaroos school in Sirah District.
- There is an urgent need of coordination between ministries and local authorities that needs to be addressed so as to utilize the granted fund and avoid overlapping.
- There have been efforts to enhance gender mainstreaming and strengthen women's roles in project implementation.
- Could UNOPS provide contractors with the required training for applying for tenders and using e-sourcing?
- Is it possible for a governmental entity to take part in the UNOPS procurement process such as in the evaluation or designing phase?
- Why is any proposed project split into sub-projects distributed in several districts or even areas and hence instead of implementing a big and an effective project, it is ended up with small, sub-projects?
- Drainage of stormwater interventions should be considered.
- Thanking UNOPS for their interventions in the health sector in general and their intervention in obstetric center intervention which embody success in project implementation. Al Sadaka Hospital in Aden still has multi needs, e.g. WASH, dialysis centre support, operational costs, establishment of dialysis centres for children, lack of water desalination in dialysis centre and many others. It was requested from MWE to send a team to assess the situation and take an immediate action in regards to WASH service as a priority.
- Planning Offices should do their functions and coordinate with the Ministry of Planning that in return coordinate between the offices to ensure effectiveness of any implemented project.
- What are UNOPS HSE measures taken into action in field sites? Does UNOPS have monitoring and evaluation mechanisms? What does UNOPS do about conflict of interest?
- What are the actions taken by UNOPS in case a contractor/beneficiary is exposed to violence?
- There was a request to have interventions to address houses damaged by floods and heavy rains in Aden.
- Will this project include civil societies as partners for implementation?

Abyan - June 17, 2021

- Abyan has huge needs and despite the conflict-affected damages experienced in the governorate and its increasing population, the number of interventions still very minimal.
- No interventions have been implemented in Lawder and there is a big need for urgent interventions.
- Civil Society and Women Association not involved in project.
- There was a request to include Khanfer district within the targeted areas for planned interventions.
- It was requested to allocate a budget for Zinjubar and give a chance for young contractors to take part in tendering.
- Why there were not any interventions in Kood area?

- There is a sanitation project in Al Hamra area. This project has started and passed the first stage but is still in need of support for completion of the other remaining stages.

Lahj- June 18, 2021

- Lahj is in need for road rehabilitation and cleaning campaigns.
- UNOPS is one of the few UN agencies that work in coordination with MoPIC for real project implementation.
- There are four major needs for Lahj rehabilitation of Ibn Khaldoun, sanitation (particularly in Al Houta).
- In Huta, there is an urging need for support of health facilities, rehabilitation of WASH services, and many others.
- There is a need for rehabilitation of the Health Institutes in Lahj and conducting capacity building of personnel.
- Unfortunately, there is no coordination with civil societies and no support given for them from local authorities. Furthermore, civil societies are not having the chance to have their leading roles in projects implementation.
- Pollution of drinking water in Tuban district is an urging issue that needs to be addressed. Wastewater is being mixed with drinking water. Suction trucks are required for sucking wastewater and sanitation channels.
- Al Muhsainah School in Huta has been subject to damages due to conflict and is in need for reconstruction and WASH service.
- IDPs camps are in need for sanitation interventions.
- Al Huta is in urging need for interventions and should be included in the investment plan.
- There is a need for provision of solar systems and WASH service to Al Zahra school as well as some education and health centres.
- Mouqbel Hole was a part of a project that was not completed since long time and now is a source for disease outspread as it is becoming a point for waste collection.
- There was a budget allocated by the governorate to address the issue of the hole in Al Huta. Yet, though the project was contracted, it was not implemented due to difficulty in accessing the targeted area and project budget allocation was not sufficient. Would it be possible by UNOPs to cooperate and support this project or any other project with supplementary funds?
- There are two holes (Tourizi & Aushel) in Wahida area where waste water is collected, especially during rain times.
- There are many holes in Al Huta despite the implementation of sanitation interventions before.
- There is no access to water in Kabelow area.
- Involvement and active participation of local authorities and communities are essential.
- UNOPS have to consider communication aspects to disclose information about the project, its objectives and outcomes.
- Abas School is the only school in Al Mousaimeer district in Lahj governorate. This school is like other schools (e.g. Al Ayman & Mohammed Dourah Schools) in need for solar systems due to unavailability of electrical services and WASH service.
- In some sessions, the presence of local authorities was absent. Active participation and involvement of these authorities would significantly contribute to the effectiveness of implemented projects.
- Conducting training on GBV was requested to increase community awareness about this issue.
- It was highlighted that Al Dalea was part of Lahj governorate and since it has become a separate governorate, it lacks all basic services. Neither government nor international agencies/organizations have included this governorate within their targets. Therefore, Al Dalea governorate is in urgent need of major emergency and development interventions.

Al Dalea - June 23, 2021

- UNOPS was thanked for their tangible contribution for the rehabilitation of six roads in Al Dalea governorate.
- WASH services in Al Dalea are poor and it was requested to provide suction trucks and pumps as part of addressing this issue.
- Needs in Al Dalea can be centralized on WASH services, WWTP, roads, dump sites, schools and hospitals.
- Al Dalea has competent engineers who are seeking for employment and can be involved in the projects being implemented by UNOPS in the governorate.
- A list of valid contactors to be available for ensuring involvement of only good contractors.
- Sustainability of projects is crucial. For instance, the Central Hospital in Al Dalea has been rehabilitated three times by different agencies; yet, it is not being utilized as expected due to lack of project sustainability during implementation.
- Cement concretes of manholes implemented as part of a WASH project in Al Dalea are now eroded and need maintenance.
- There should be treatment for water wells in Khouber & Marfed villages as well as for Khalah, Akmat Al Asoub, and Hajer areas. People are suffering health issues due to drinking from these untreated wells as water has high percentages of fluoride and chlorine substances.
- Is UNOPS intervening with solar systems for power generation?
- How can Civil Societies cooperate with UNOPS?

Taiz - June 24, 2021

- Civil Societies in Taiz are not involved in project implementation.
- Taiz has huge needs, particularly in WASH aspects.
- Does UNOPS have a consultation plan for investment to be discussed with all parties?
- The three most priorities for interventions in Taiz are WASH, electricity and roads.
- It was suggested that civil societies and local communities could form monitoring groups to scrutinize local authorities' contribution and implementation of required interventions.
- Who are UNOPS' partners selected for project implementations?
- There are a number of competent engineers who are seeking employment opportunities. Involving them in project implementation would be a good idea.
- UNOPS was thanked for taking gender considerations into account in project implementation.
- Education interventions in Taiz are very minimal and UNOPS has to consider this necessary sector in its interventions.
- Support for WASH service is crucial. The selection of intervention types and areas targeted must be identified by the authorities.
- UNOPS is one of the leading organizations in infrastructure works, interventions being implemented in Al Thawara Hospital in Taiz in rehabilitation and provision of solar systems is suggested to be more addressed and communicated.
- Civil Societies have essential roles in communities. Coordinating with Executive Offices in the governorate to raise concerns and prioritizing interventions would significantly have their tangible impact.
- What is the role of the community in monitoring interventions?
- Cancer patients are in huge need for emergency support. Addressing interventions for this service would help in reducing the suffering of these patients.
- It was repeatedly requested to include Taiz in the investment plan and allocate a higher budget to meet the needs of the governorate.
- It was requested to support women and enhance their involvement and capacity building.

Outcomes of Survey

At the end of each consultation meeting, survey forms were distributed among participants to assess their satisfaction of the conducted session(s). The overall feedback was pleasing where most of the participants found that the sessions achieved their objectives and were informative & interactive. UNOPS was highly thanked by stakeholders for the great work achieved, the effective interventions implemented and the overall support provided. Conducting those sessions reflected the importance of stakeholder engagement and UNOPS were transparent in addressing participants' inquiries / concerns

(i)Key Actions:-

Investment plan to be updated according to the consultation feedback.

The consultation feedback to be addressed in site-specific ESMPs.

For each subproject, the ESSO of the concerned Implementing Partners will engage with affected communities, including host communities, through the process of stakeholder engagement described in the Project Stakeholder Engagement Plan (SEP). UNOPS and its Implementing Partner will initiate consultations with individuals and communities that might be affected by the subproject, as soon as subproject screening has been completed. The purpose of the consultations will be to: (i) inform them about the activities to be undertaken, their timetable and possible impacts, and; (ii) document and address their concerns. Consultation summaries should be included in safeguard instruments, including who was consulted, where and when, what concerns were expressed, and how these concerns were addressed. The records of consultations are kept in the Project Office.

The consultation with sub-projects beneficiaries and local communities' process will take in account the sociocultural context of Yemen. Consultations can take the form of focus groups, discussions with elders/community leaders, or interviews. Separate consultations will be done for women in order to ensure that any special concerns and needs are taken into account during the preparation of the safeguard instruments. In light of the fragility, conflict, and violence (FCV) context, the ESSO of the concerned Implementing Partners will ensure that PAPs are not exposed to risks as part of their participation in subproject consultations, for example by avoiding large meetings, and not disclosing personal information/photos.

7.6 Grievance Mechanism

UNOPS will apply the Project Grievance Mechanism⁴⁵ detailed in Section 5 of the Project Stakeholder Engagement Plan, to all subprojects. Each ESMP will include a subproject specific Grievance Mechanism, with procedures relevant to its specific context.

Subproject related grievances can be brought up by affected people in case of: (i) non-fulfillment of contracts or agreements; (ii) compensation entitlements; (iii) types and levels of compensation; (iv) disputes related to destruction of assets or livelihoods; or (v) disturbances caused by construction activities, such as noise, vibration, dust or smell. Anonymous complaints will be admissible.

The UNOPS Program Manager based in the Sana'a Office will have the overall responsibility to address Project activity-related complaints and inquiries from Project affected communities or individuals regarding any environmental or social impacts due to subproject activities. The UNOPS ESSO in its Sana'a Office will handle Project activity-related complaints, who will be assisted by UNOPS' City Engineers in the target cities. The ESSO in each of the Implementing Partners will handle complaints related to their activities. UNOPS will coordinate with the local Implementing Partners and will set a unified timeframe for reporting grievances. UNOPS and the Implementing Partners will present and explain the mechanism to all subproject affected persons subproject preparation.

UNOPS is providing multiple access points to the ESSO for beneficiaries to voice their concerns. These access points will be advertised at subproject level, and include: complaint box at Project activity sites, at UNOPS' offices in Sana'a by directly contacting Project affiliated staff, and by mail, telephone, email, and UNOPS' website:

Address Haddah Street, former European Union Office Building, Sana'a

⁴⁵ The Project Grievance Mechanism described in the Project Stakeholder Engagement Plan (SEP) is distinct from the Workers Grievance Mechanisms described in the Project Labor Management Procedures (LMP)

Telephone +967 1 504914 and +967 1 504915
Email gm-yemen@unops.org
Website www.unops.org

7.7 Implementation of Subproject Mitigation Measures

UNOPS and the Implementing Partners are responsible for implementing the necessary mitigation measures that are beyond the control of contractors. In addition, subprojects should regularly consult with project affected persons and communities throughout subproject implementation, as indicated in the Project's Stakeholder Engagement Plan.

Chapter 8.

Monitoring and Reporting

The UNOPS ESSO will monitor the overall implementation of the ESMF⁴⁶ by UNOPS and its Implementing Partners, most particularly the:

- (i) timely preparation of environmental and social screening forms for all subprojects (list of subprojects by risk category by date)
- (ii) timely preparation and clearance of subproject ESIA and ESMPs, as needed (list of instruments with dates)
- (iii) management of prior review requirements of the World Bank (non-objection requests with dates)
- (iv) preparation and monitoring of ESMP implementation, including monitoring of mitigation measures and monitoring of contractors environmental and social performance (indicators)
- (v) training of Project staff, of Implementing Partners, and contractors (list of persons, dates and places).

The ESSO will prepare:

- (i) bi-annual reports summarizing monitoring results, to be included in the Project's bi-annual Reports to the World Bank
- (ii) reports that aggregate and analyze monitoring results ahead of regular "reverse" World Bank implementation support missions with UNOPS
- (iii) an annual evaluation of all environmental and social monitoring results, which will be submitted to the World Bank as part of overall project implementation reporting.

Environmental and social risk management aspects are also part of the scope of the Third-Party Monitoring (TPM) services contracted by UNOPS.

8.1 Subproject Environmental and Social Database

The ESSO will establish, maintain, and update a database of all subprojects that will be shared with the Implementing Partners. The database will include for each subproject:

- (i) type of subproject, name of subproject, Implementing Partner
- (ii) environmental and social risk level
- (iii) timeline (clearance of screening form, clearance of ToRs, clearance of safeguard instruments)
- (iv) supervision reports by ESSOs during implementation
- (v) contractor reports
- (vi) noncompliance by contractors
- (vii) cross references to the Grievance Redress Mechanism's log of complaints.

8.2 Monitoring of ESMPs

The ESSOs within UNOPS and the Implementing Partners will conduct onsite visits to large water and sanitation subprojects at least once a week, or more often as needed, to monitor the implementation of their ESMPs. Smaller subprojects will be monitored every two weeks, or more often as needed.

The following table provides an indicative monitoring plan in the event of a large water and sanitation subproject, to be included in subproject ESMPs.

⁴⁶ In addition to the subproject ESMP, the ESSO will monitor any Resettlement Plan as well as the status of resolution of grievances/complaints. The ESSO will also evaluate that the livelihoods of PAPs were restored as per the Resettlement Plan.

Table 16: Monitoring plan

What	How	Who	When
<ul style="list-style-type: none"> • Proper operation of the network. • Efficiency of treatment ponds. Effluent quality tests for: <ul style="list-style-type: none"> ○ BOD ○ PH ○ Conductivity ○ Fecal Coliforms • Reuse of effluent and types of irrigated crops. • Disposal/reuse of sludge • Health and safety of workers and farmers 	<ul style="list-style-type: none"> • Monitoring checklists • Visual inspection at the scheme routes and at manholes. • Samples collected from outlet of treatment works • Focus groups with communities to evaluate the effectiveness of health and hygiene awareness campaigns. <p>Checks on courseware qualities for capacity building programs (Administrative, financial and O&M)</p>	MoWE Local Authorities Local NGOs Communities and LCs.	Semi-annually (for one year after the start of operation)
<ul style="list-style-type: none"> • Capacity building programs. • Training of members of community or local NGOs on health & hygiene awareness 	<ul style="list-style-type: none"> • Interviews with awareness teams. 	Environmental Specialist UWS/PMU and UNOPS	Monthly
<ul style="list-style-type: none"> • Complaints handling. 	<ul style="list-style-type: none"> • Checking logs. 	UWS/PMU and UNOPS GRM personnel.	Monthly.

8.3 Monitoring of Contractors

As part of their regular activities, the ESSOs will monitor and document (including pictures) the environmental and social performance of contractors for each subproject throughout the contract period. This will involve both spot check visits to work locations, and reviews of records kept by the contractor and of reports submitted by the contractor. The frequency of site visits should be commensurate with the magnitude of activities and their associated environmental and social impacts. Overall, each construction site should be visited at least once during subproject implementation.

For any incident or accident that causes or has the potential to cause material or significant environmental and/or social harm, the site supervisor/designated officer shall notify the responsible party's senior management and the Project Manager as soon as possible, and no later than 24 hours. UNOPS or its Implementing Partner will visit sites where a serious accident is recorded within one working day of the accident or incident, and report any significant accident or incident to the World Bank within 48 hours.

UNOPS and its Implementing Partners will document in the database each visit and interaction with a contractor, including identification of contractor noncompliance, the significance of the non-compliance, and guidance provided on actions to be taken. The ESSOs within UNOPS and ESSOs with the Implementing Partners will be responsible for follow up implementation of all environmental and social mitigation measures and ensure timely resolution of issues of noncompliance with environmental and social clauses. The health and safety officers at UNOPS and IPs will be responsible for follow up of implementation of all health and safety measures and OHS requirements and ensure timely resolution of issues of noncompliance with health and safety clauses. This may include additional visits to the contractor's site or offices, further communications with contractor personnel, issuance of notices of deficiency or warnings to the contractor, and other actions as needed.

At any stage of construction or other work, if the contractor has not taken appropriate action to achieve compliance with the environmental and social clauses after repeated notices of violation and warnings of noncompliance, and significant environmental or social impacts are occurring or imminent, UNOPS should order the contractor to stop work until environmental and social performance is brought under

control and up to acceptable standards.

Table 17: Tentative Cost Estimate for Monitoring of Large Water and Sanitation Sub-Projects

YEHCP - ESMPs - Large Water and Sanitation Subprojects - Monitoring Plan Estimated Budget.				
	Implementation Costs			
Activity	Personnel cost	Operations cost	Contracts/ material cost	Total Cost \$
Monitoring checklists	3,000	12,000	26,000	41,000
Visual inspection at the scheme routes and at manholes.	5,000			5,000
Samples collected from outlet of treatment works	6,000	8,000	2,000	16,000
Focus groups with communities to evaluate the effectiveness of health and hygiene awareness campaigns	3,000			3,000
Checks on courseware qualities for capacity building programs (Administrative, financial and O&M)	2,000			2,000
Interviews with awareness teams	3,000			3,000
Total				70,000

8.4 TPMA Monitoring

Specific Requirements for Safeguards Compliance Verification include two phases of subprojects' implementation:

- Phase 1 includes compliance check with the environmental and social safeguards requirements per Project documents (PAD; ESMF; ESMPs; other) in regard to the subprojects preparation/design and existence of these requirements in the bid and contract documents or other related implementation arrangements;
- Phase 2 includes verification of conformity with safeguards' requirements during implementation of subprojects; and compliance check with all environmental and social safeguards requirements per the project documents.

8.5 Completion Reports

Upon subproject completion, the ESSOs will prepare a subproject completion report that flags any unresolved environmental or social issue, with recommended remedial action. This report will be shared with the Program Manager who will decide the way forward. For subprojects with significant environmental or social impacts, the completion report might recommend periodic routine inspections/monitoring during operation of the facility by dedicated environmental and social specialists.

Chapter 9.

Capacity

This chapter reviews the capacity and skills available within UNOPS and its Implementing Partners to implement and monitor the ESMF, and proposes measures to enhance this capacity.

9.1 UNOPS

UNOPS' Environmental and Social Safeguards Officer (ESSO) and UNOPS Health and Safety Officer based in the UNOPS Sana'a Office will oversee the management of environmental and social risks and OHS requirements for the Project and they will:

- Review and clear environmental and social screening forms for all subprojects that are prepared by the Implementing Partners
- Review and clear draft ESMPs for all sub-projects that are prepared by the Implementing Partners
- Prepare ToRs for all full ESIA and ESMPs that might be required
- Provide the draft ToRs for full ESIA and ESMPs to the World Bank for their prior review
- Supervise the preparation of ESIA and ESMPs by the consultants selected by UNOPS
- Provide draft full ESIA and ESMPs to the World Bank for review and clearance
- Monitor subproject compliance with their ESMPs and OHS requirements, including field visits and spot checks
- Work closely with UNOPS engineers and procurement officers to incorporate environmental and social including OHS requirements into subproject design, appraisal and resource mobilization
- Closely coordinate with ESSOs in the Implementing Partners.
- Compile quarterly, biannual and annual reports on ESHS risks management performance of the Project that will be incorporated into the Project reports
- Provide assistance and deliver capacity building trainings to UNOPS staff, Implementing Partners, and contractors
- Organize and oversee the preparation, production and distribution of training manuals and awareness materials

UNOPS will also deploy a Gender Mainstreaming Officer and a Health and Safety Officer based in its Sana'a's office.

UNOPS will also recruit a part time international expert to be available - on a needs basis - to oversee the overall implementation, monitoring, and reporting of environmental and social risk management aspects.

OHS implementation follow up and monitoring at sub-projects level will be covered by UNOPS retainers at sites to support management of risks and impacts including OHS implementation.

9.2 Public World Projects (PWP)

PWP currently employs an environmental expert and a social expert who cover environmental and social issues in PWP's current portfolio of projects. These two experts will jointly serve as the ESSO for the subprojects implemented by PWP, including the preparation of environmental and social screening forms, the preparation of proportionate ESMPs for subprojects that do not require a full ESIA and ESMP, and the monitoring of contractor compliance with subproject ESMP requirements. As necessary, PWP will recruit additional staff or employ local consultants.

9.3 UWS-PMU

The environmental and social officer in UWS-PMU will serve as its ESSO for the Project. The ESSO will prepare the environmental and social screening forms for all subprojects implemented by UWS, and monitor on-site contractor compliance with subproject ESMP requirements, including the Environmental and Social Requirements for contractors.

9.4 Capacity Development

UNOPS will ensure that the ESSO, the Gender Mainstreaming Officer, and the Health and Safety Officer within UNOPS, as well as the ESSOs and Health and Safety Officers of the Implementing Partners receive training on the ESF and its implementation.

The UNOPS ESSO, jointly with the ESSOs in the Implementing Partners, will organize training for the persons involved in Project implementation, including:

- A launch workshop to operationalize the ESMF and agree on roles and responsibilities moving forward
- A workshop with UNOPS engineers and technical staff to explain the ESMF and its implementation.
- Environmental and social risk management training and capacity enhancement for the Implementing Partners, participating contractors, and Local Councils.
- Toolbox talks for contractors to explain the ESMF and the ESHS requirements, including the grievance mechanism for workers, sexual exploitation and abuse (SEA)/sexual harassment (SH) and the associated grievance management, and worker OHS, including:
 - On-site risk identification and mitigation
 - Use of PPEs
 - Emergency Prevention and Preparedness
- Sessions to sensitize the local councils to the ESMF and its implementation
- Training of UNOPS staff and Implementing Partners on land acquisition and resettlement management

The UNOPS HSSE Unit might be involved in the capacity building activities.

UNOPS will also finance the production of training manuals and awareness materials as needed.

Table 18:. Indicative costs of capacity building activities

Capacity Building Measures	Unit Cost (USD)	Costs (USD)
5 X 2-day training on ESMF for Implementing Partners and their consultants	2000/session	10,000
10 X 1-day consultation with local councils and key stakeholders	1000/session	10,000
70 X 1-day training on ESMP and contractual clauses for contractors	1000/session	70,000
Production of environmental and social awareness materials (brochures, posters, fliers)	5000	5,000
TOTAL		95,000

9.5 Budget

- UNOPS is fully covering, as part of the fee that it will charge the Bank, the cost of the ESSO, the Gender Mainstreaming Officer, and the Health and Safety Officer, as well as any associated operational costs.
- The Implementing Partners are covering the cost of their respective ESSOs and Health and Safety Officers as part of their respective Project Cooperative Agreement (PCA) with UNOPS. These ESSOs might not work full time on YEHCP- Component 2 activities, as each Implementing Partners has partnered with several projects.

- The cost of due diligence for specific subprojects (preparation of the screening form, consultations, GM, preparation of ESMPs and Resettlement Plans , and monitoring) are included in the costs/budget for each subproject. These costs are scalable to the level and scope of the potential risks and impacts, and might include the costs of consultants recruited by UNOPS or an Implementing Partner to assist on specific tasks.

Annex 1.

Template for Subproject Screening

Screening Form for Potential Environmental and Social Issues

UNOPS will use this form to screen for the potential environmental and social risks and impacts of a proposed subproject. The form will allow UNOPS to: (i) identify the relevant Environmental and Social Standards (ESS); (ii) establishment an appropriate Environmental and Social risk for the subproject, and; (iii) specify the type of environmental and social assessment required, including specific instruments/plans.

The Screening Form is not a substitute for subproject-specific environmental and social assessments or specific mitigation plans.

Subproject name	
Subproject location	
Implementing Partner	
Estimated Investment	
Was the site visited beforehand	
Estimated Start/Completion Date	
Observations/Comments	
Signature of UNOPS ESSO	
Signature of Program Manager	

Question	Answer		ESS relevance	Due diligence/ Actions
	Yes	no		
Does the subproject involve civil works including new construction, expansion, upgrading or rehabilitation of existing infrastructure?			ESS1	ESIA/ESMP, SEP
Does the subproject involve land acquisition and/or restrictions on land use?			ESS5	Resettlement Plan, SEP
Is the subproject associated with any external waste management facilities such as a sanitary landfill, incinerator, or wastewater treatment plant? Does the sub-project use additional technically feasible water conservation measures? Does the sub-project consider additional strategies to adopt measures that avoid or minimize negative effects of emissions?			ESS3	ESIA/ESMP, SEP
Does the subproject have an adequate system in place (capacity, processes and management) to address waste?			ESS1, ESS3	ESMP

Does the subproject involve the recruitment of workers including direct, contracted, primary supply, and/or community workers?			ESS2	LMP, SEP
Does the subproject have appropriate OHS procedures in place, and an adequate supply of PPE (where necessary)?			ESS2	LMP
Does the sub-project have a GM in place, to which all workers have access, designed to respond quickly and effectively?			ESS10	SEP
Does the subproject involve use of security or military personnel during construction and/or operation of healthcare facilities and related activities? Does the sub-project establish and implement appropriate quality management systems to anticipate and minimize risks and impacts that services may have on community health and safety. Does the sub-project apply the concept of universal access where technically and financially feasible?			ESS4	ESIA/ESMP, SEP
Is the subproject located within or in the vicinity of any ecologically sensitive areas?			ESS6	ESIA/ESMP, SEP
Is the subproject located within or in the vicinity of any known cultural heritage sites?			ESS8	ESIA/ESMP, SEP
Does the project area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?			ESS1	ESIA/ESMP, SEP

Conclusions of the screening:

1. **Indicate the proposed environmental and social risk ratings⁴⁷ (High, Substantial, Moderate or Low), and provide justifications.**
2. **Indicate the proposed environmental and social risk management instruments that must be prepared.**

⁴⁷ **High Risk** subprojects are likely to generate a wide range of significant adverse risks and impacts on human populations or the environment, because of the complex nature of the Project, their large to very large scale, or the sensitivity of the subproject locations. Impacts are likely to be long term, permanent, irreversible, and impossible to avoid entirely due to the nature of the Project

Medium Risk subprojects are likely to generate some significant adverse risks and impacts on human populations or the environment, because of their large to medium scale. They are not located in a highly sensitive area. Impacts are likely to be mostly temporary, predictable and reversible.

Moderate Risk subprojects have adverse risks and impacts on human populations and/or the environment that are not likely to be significant, because the subproject is not complex or large, do not involve activities that have a high potential for harming people or the environment, and are located away from environmentally or socially sensitive areas.

Low Risk subprojects have potential adverse risks to and impacts on human populations or the environment that are likely to be minimal or negligible. These subprojects do not require further ES assessment following the initial screening.

Annex 2.

Yemeni Environmental Quality Standards

Table 19. Permissible limits for key air pollutants

Pollutant	Time Period	Value
Carbon Monoxide and Dioxide gas (CO/CO ₂)	8 hours	10 micrograms\m ³
Nitrogen oxide (NO _x)	24 hours	150 micrograms\m ³
Sulphur oxide (SO _x)	24 hours	250 micrograms\m ³
Ozone (O ₃)	8 hours	120 micrograms\m ³
Particulate Matter (PM)	24 hours	70 micrograms\m ³
Lead (Pb)	Annually	1 micrograms\m ³

The Yemeni standards for air quality do not specify sources of industrial emissions; they are also less strict than those in the World Bank Group EHS Guidelines.

Table 20. Maximum noise level allowed in different environments (Decibel Unit dB)

Environment	Time		
	7h00-18h00	18h00-23h00	23h00-07h00
Rural housing and entertainment places	45	40	25
Suburban housing areas	50	45	40
Urban housing areas	55	50	45
Housing areas in city centers	60	55	50
Industrial and commercial areas	70	70	70

Table 21. Physical Characteristics of drinking water

Characteristic	Unit	Optimal limit	Maximum limit
Taste		Acceptable to consumers	
Odor		Acceptable to consumers	
Color	Platinum Cobalt	5	25
Turbidity (NTU)	Turbidity Unit	1	5
Temperature	Degree Celsius	-	25
pH (Potential of hydrogen)		6.5-8.5	5.5- 9
Electrical Conductivity EC	Micro mohs/cm	450-1000	2500

Table 22. Inorganic substances in drinking water

Substance	Symbol	Optimal limit (mg/L)	Maximum limit (mg/L)
Total Dissolved Salts	TDS	650	1500
Bicarbonate	HCO ₃	150	500
Chloride	Cl ⁻	200	600
Sulphate	SO ₄	200	600
Fluoride	F ⁻	0.5	1.5
Calcium	Ca	75	200
Magnesium	Mg	30	30-150

Barium	Ba	0.1	0.15
Sodium	Na	200	400
Potassium	K	0-12	12
Nitrate	NO ₃	10	50
Iron	Fe	0.3	1
Manganese	Mn	0.1	0.5
Copper	Cu	0.1	1.5
Zinc	Zn	5	15
Total Hardness (as Calcium Carbonate)	TH	100	500
Aluminum	Al	0.2	0.3
Nickel	Ni	0.05	0.1
Boron	B	0.50	1
Silica	SiO ₂		40

Total residual chlorine concentration in treated water reaching the consumers should be between 0.2 to 0.5 ppm. It might be increased in the event of an epidemic to the level determined by the related authorities and international organizations.

Table 23. Maximum limits for organic pollutants in drinking water

Substance	Maximum limit (mg/L)
Aldrin	0.0002
Lindane	0.004
Methoxine	0.01
Toxaphene.	0.002
2,4 Dichlorophenoxy acetic acid	0.1
Propionic acid	0.01
Malathion	0.19
Parathion	0.035
Permethrin	0.01
Dimethoate	0.002
Diazinon	0.002

Table 24. Maximum limits for toxic substances in drinking water

Substance	Unit	Maximum limit
Lead (Pb)	mg/L	0.05
Selenium (Se)	//	0.01
Arsenic (As)	//	0.01
Chromium (Cr)	//	0.05
Cyanide (CN)	//	0.01
Cadmium (Cd)	//	0.005
Mercury (Hg)	//	0.001
Antimony (Sb)	//	0.005
Barium (Ba)	//	0.5-1.0
Silver (Ag)	//	0.01-0.1
Halogenated methane group (TTHM) includes: Chloroform, Bromoform, Bromodichloromethane and Dibromochloromethane	µg/L	150

The amount of radioactive materials in water should not exceed the limits mentioned below:

The microbiological pollutants in treated public water supplied through the distribution network or any other distribution means must be free of Total Coliform and Colon Bacillus form as mentioned below:

Table 25. Bacterial Pollutants

Bacteria	Unit	Maximum limit
Total coliforms	CFU/100 ml	Zero
Fecal coliform	CFU/100 ml	Zero

Microbiological pollutants in untreated public water conveyed into the distribution network

- 98% of the annually tested samples must be free of total coliforms.
- The fecal coliform must not exceed three in any one isolated sample and not successive samples.
- Water not supplied through the distribution network such as: wells, springs, rain water reservoirs the Fecal coliform that found in a 100 ml water sample must not exceed 10-15 coliform.

Biological Pollutants

The drinking water must be free from the following:

- Protozoa harmful to health.
- Parasitic worms (Helminths) that can involve human as a host during its life cycle and transfer infection to human.
- Parasites including fungi that affect health or produces toxic materials that affect human health.

Waste Water

Physical Standard physical requirements:

- Maximum temperature should not exceed 45 C°
- Should not contain substances susceptible to freezing, settling or become viscous in temperature ranging from 0-40 C°
- Should not contain solid or liquid hazardous and explosive materials

Table 26. Maximum levels of chemical substances in industrial and commercial waste water discharged in the public sewerage network

Compound/Substance	Symbol	Unit	Maximum limit
Chemical Oxygen Demand	COD	mg/L	2100
Biochemical Oxygen Demand	BOD	mg/L	800
Power of Hydrogen	pH	---	5.5-9.5
Maximum Temperature Degree	C°	C	45
Total Suspended Solids	TSS	mg/L	1100
Total Dissolved Solids	TDS		2000
Oil and Grease	---		100
Phenolic Compounds	---		10
Sulphate	SO ₄		1000
Phosphorus	P		50
Cyanide	CN		5
Sulphur	S		1
Hydrogen Sulfide	H ₂ S		10

Iron	Fe		50
Chloride	Cl		600
Fluoride	F		8
Arsenic	As		5
Tin	Sn		10
Barium	Ba		5
Boron	B		5
Cadmium	Cd		1
Chromium (VI)	Cr		5
Copper	Cu		5
Lead	Pb		0.6
Mercury	Hg		0.01
Nickel	Ni		5
Selenium	Se		0.1
Silver	Ag		1
Manganese	Mn		10
Beryllium	Be		5
Zinc	Zn		15
Cobalt	Co		0.05
Lithium	Li		5
Vanadium	V		0.1
Aluminum	Al		5

Wastes that must be handled with control set up by the administration under the competent authority of which wastes lie:

Clinical wastes generated from medical care in hospitals, clinics and medical centers.

1. Wastes generated from pharmaceutical preparations and products.
2. Wastes generated from medicaments and drugs.
3. Wastes generated from production of biological insecticides, preparation of medicaments from plants and shrubs and its usage.
4. Wastes generated from wood chemical protective materials and their preparation and utilization.
5. Wastes generated from organic solvent materials and their preparation and usage.
6. Wastes generated from thermal processing and printing processes which contains cyanide.
7. Wastes from unusable mineral oil.
8. Wastes from oil/water and mixes of hydrocarbons etc.
9. Wastes from substances and compounds containing alkaline phenol with multitude bonds (PCBs) and/or phenyls of multiple chlorine bonds.
10. Wastes from tar sediments resulting from refining and distillation and any thermal processing analysis.
11. Wastes from production of links, paints, coloring materials, lacquers, varnishes and their preparation and usage.
12. Wastes left from the production of resins, gingival, plastics, furs, sticking materials and their preparation and usage.
13. Wastes from chemical materials generated from research and development activities or from any uncategorized/ or new educational activities the effects of which on human beings and the environment are not known.
14. Wastes of explosive nature not subjected to any other legislation.
15. Wastes left from production of chemical, processing and photographic materials and their usage and preparation and usage.
16. Wastes from surface treatment of plastics and metals.

17. Residues resulting out of disposing of industrial wastes.

Hazardous wastes for which transportation and handling is prohibited except with a permission from the Competent Authority include:

- Wastes that include the following materials in their composition:
 1. Carbonic metal.
 2. Barium and barium compounds.
 3. Chrome hexa equivalence compounds.
 4. Copper compounds.
 5. Zinc compounds.
 6. Arsenate, arsenic compounds.
 7. Selenium, selenium compounds.
 8. Cadmium, cadmium compounds.
 9. Antimony, antimony compounds.
 10. Tellurium, tellurium compounds.
 11. Mercury, mercury compound.
 12. Thallium, thallium compounds.
 13. Lead, lead compounds.
 14. Fluorine inorganic compounds except calcium fluoride.
 15. Cyanide inorganic compounds.
 16. Acid solutions or acids in solid state.
 17. Alkaline solutions or alkalines in solid state.
 18. Rock silk (Asbestos) (fiber dust)
 19. Phosphorous organic compounds.
 20. Cyanide organic compounds.
 21. Phenol, phenol organic compounds including chlorophenol.
 22. Organic compounds of Ether/air.
 23. Halogenic organic solvents.
 24. organic solvents expect halogenic solvents.
 25. Any similar substance to bi-benzene of multiple chlorine bonds.
 26. Any substance similar to dioxin-pho-bi-benzene of chloride bonds.
 27. Most organic halogen compounds
- Pesticides and home insecticides.
- Petroleum substances.
- Substances from which ionic radiations are emitted.
- Inflammable and explosive substances.

Annex 3.

Indicative Outline of Subproject ESIA

Where an environmental and social impact assessment (ESIA) must be prepared as part of the environmental and social assessment of a subproject, it will include the following:

Executive Summary

- Concisely discusses significant findings and recommended actions.

Legal and Institutional Framework

- Analyzes the legal and institutional framework for the project, within which the environmental and social assessment is carried out, taking into account in an appropriate manner all issues relevant to the project, including: (a) the country's applicable policy framework, national laws and regulations, and institutional capabilities (including implementation) relating to environment and social issues; variations in country conditions and project context; country environmental or social studies; national environmental or social action plans; and obligations of the country directly applicable to the project under relevant international treaties and agreements; (b) applicable requirements under the ESSs; and (c) the EHSGs, and other relevant GIIP.
- Compares the Borrower's existing environmental and social framework and the ESSs and identifies the gaps between them.
- Identifies and assesses the environmental and social requirements of any co-financiers.

Subproject Description

- Concisely describes the proposed subproject and its geographic, environmental, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, power supply, water supply, housing, and raw material and product storage facilities), as well as the project's primary suppliers.
- Through consideration of the details of the project, indicates the need for any plan to meet the requirements of ESS1 through 10.
- Includes a map of sufficient detail, showing the project site and the area that may be affected by the project's direct, indirect, and cumulative impacts.

Baseline Data

- Sets out in detail the baseline data that is relevant to decisions about project location, design, operation, or mitigation measures. This should include a discussion of the accuracy, reliability, and sources of the data as well as information about dates surrounding project identification, planning and implementation.
- Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions.
- Based on current information, assesses the scope of the area to be studied and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences.
- Takes into account current and proposed development activities within the project area but not directly connected to the project.

Environmental and Social Risks and Impacts

- Takes into account all relevant environmental and social risks and impacts of the project. This will include the environmental and social risks and impacts specifically identified in ESS2–8, and any other environmental and social risks and impacts arising as a consequence of the specific nature and context of the project, including the risks and impacts identified in ESS1, paragraph 28.

Mitigation Measures

- Identifies mitigation measures and significant residual negative impacts that cannot be mitigated and, to the extent possible, assesses the acceptability of those residual negative impacts.
- Identifies differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable.
- Assesses the feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of proposed mitigation measures, and their suitability under local conditions; and the institutional, training, and monitoring requirements for the proposed mitigation measures.
- Specifies issues that do not require further attention, providing the basis for this determination.

Analysis of Alternatives

- Systematically compares feasible alternatives to the proposed project site, technology, design, and operation—including the “without project” situation—in terms of their potential environmental and social impacts.
- Assesses the alternatives’ feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of alternative mitigation measures, and their suitability under local conditions; and the institutional, training, and monitoring requirements for the alternative mitigation measures.
- For each of the alternatives, quantifies the environmental and social impacts to the extent possible, and attaches economic values where feasible.

Design Measures

- Sets out the basis for selecting the particular project design proposed and specifies the applicable EHSs or if the EHSs are determined to be inapplicable, justifies recommended emission levels and approaches to pollution prevention and abatement that are consistent with GIIP.

Key Measures and Actions for the Environmental and Social Commitment Plan (ESCP)

- Summarizes key measures and actions and the timeframe required for the project to meet the requirements of the ESSs. This will be used in developing the Environmental and Social Commitment Plan (ESCP).

Appendices

- List of the individuals or organizations that prepared or contributed to the environmental and social assessment.
- References—setting out the written materials both published and unpublished, that have been used.
- Record of meetings, consultations and surveys with stakeholders, including those with affected people and other interested parties. The record specifies the means of such stakeholder engagement that were used to obtain the views of affected people and other interested parties.
- Tables presenting the relevant data referred to or summarized in the main text.
- List of associated reports or plans.

Annex 4.

Indicative Outline of an ESMP

An ESMP consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a subproject to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures. UNOPS will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements.

The content of the ESMP will include the following:

Mitigation

- The ESMP identifies measures and actions in accordance with the mitigation hierarchy that reduce potentially adverse environmental and social impacts to acceptable levels.
- The plan will include compensatory measures, if applicable. Specifically, the ESMP:
 - (i) identifies and summarizes all anticipated adverse environmental and social impacts (including those involving indigenous people or involuntary resettlement);
 - (ii) describes - with technical details – each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate;
 - (iii) estimates any potential environmental and social impacts of these measures;
 - (iv) takes into account, and is consistent with, other mitigation plans required for the project (e.g., for involuntary resettlement, indigenous peoples, or cultural heritage).

Monitoring

- The ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed in the environmental and social assessment and the mitigation measures described in the ESMP. Specifically, the monitoring section of the ESMP provides (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

Capacity Development and Training

- To support timely and effective implementation of environmental and social project components and mitigation measures, the ESMP draws on the environmental and social assessment of the existence, role, and capability of responsible parties on site or at the agency and ministry level.
- Specifically, the ESMP provides a specific description of institutional arrangements, identifying which party is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training).
- To strengthen environmental and social management capability in the agencies responsible for implementation, the ESMP recommends the establishment or expansion of the parties responsible, the training of staff and any additional measures that may be necessary to support implementation of mitigation measures and any other recommendations of the environmental and social assessment.

Implementation Schedule and Cost Estimates

- For all three aspects (mitigation, monitoring, and capacity development), the ESMP provides (a) an implementation schedule for measures that must be carried out as part of the project,

showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Integration of ESMP with Project

- The Borrower's decision to proceed with a project, and the Bank's decision to support it, are predicated in part on the expectation that the ESMP (either stand alone or as incorporated into the ESCP) will be executed effectively. Consequently, each of the measures and actions to be implemented will be clearly specified, including the individual mitigation and monitoring measures and actions and the institutional responsibilities relating to each, and the costs of so doing will be integrated into the project's overall planning, design, budget, and implementation.

Annex 5.

Environmental and Social Requirements for Contractors

Contractors shall meet the following Environmental, Health, Safety and Social (including labor) requirements – thereafter called ESHS requirements⁴⁸.

The ESHS requirements include 10 sections

1. Contractor Environmental and Social Management Plan (C-ESMP)
2. ESHS Training
3. Construction Site Management
4. Occupational Health and Safety (OHS)
5. Road safety and Traffic Safety
6. Chance Find Procedures
7. Emergency Preparedness and Response
8. Stakeholder Engagement
9. Labor force management, including the Code of Conduct
10. Contractor Environmental and Social Reporting.

Contractor Environmental and Social Management Plan (C-ESMP)

The Contractor shall:

- Prepare and submit to UNOPS for approval a Contractor Environmental and Social and Social Management Plan (C-ESMP).
- Include in the C-ESMP a detailed explanation of how the contractor's performance will meet the ESHS requirements
- Ensure that sufficient funds are budgeted to meet the ESHS requirements, and that sufficient capacity is in place to oversee, monitor and report on C-ESMP performance.
- Put in place controls and procedures to manage their ESHS performance.
- Get prior written approval from UNOPS Engineers before starting construction or rehabilitation activities.

ESHS Training

The Contractor shall

- Determine ESHS training needs in collaboration with UNOPS
- Maintain records of all ESHS training, orientation, and induction.
- Ensure, through appropriate contract specifications and monitoring that service providers, as well as contracted and subcontracted labor, are trained adequately before assignments begin.
- Demonstrate that its employees are competent to carry out their activities and duties safely. For this purpose, the Contractor shall issue a Competence Certificate for every person working on site (relative to trade and aspect of work assignment) that specifies which tasks can be undertaken by which key personnel.

⁴⁸ The ESHS requirements build on the General EHS Guidelines of the World Bank Group, but also take into account other World Bank guidelines, and good practice notes

Orientation Training

The Contractor shall:

- Provide ESHS orientation training to all employees, including management, supervisors, and workers, as well as to subcontractors, so that they are apprised of the basic site rules of work at/on the site and of personal protection and preventing injury to fellow employees.
- Training should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.

Visitor Orientation

The Contractor shall:

- Establish an orientation program for visitors, including vendors that could access areas where hazardous conditions or substances may be present.
- Visitors shall not enter hazard areas unescorted.
- Ensure that visitors shall always be accompanied by an authorized member of the contractor, or a representative of UNOPS or of its Implementing Partners, who has successfully fulfilled the ESHS orientation training, and who is familiar with the project site construction hazards, layout, and restricted working areas.

New Task Employee and Contractor Training

The Contractor shall:

- Ensure that all workers and subcontractors, prior to commencement of new assignments, have received adequate training and information enabling them to understand work hazards and to protect their health from hazardous ambient factors that may be present. The training should adequately cover the step-by-step process that is needed for Project activities to be undertaken safely, with minimum harm to the environment, including:
 - Knowledge of materials, equipment, and tools
 - Known hazards in the operations and how they are controlled
 - Potential risks to health
 - Precautions to prevent exposure
 - Hygiene requirements
 - Wearing and use of protective equipment and clothing
 - Appropriate response to operation extremes, incidents and accidents.

Construction Site Management

Vegetation

The Contractor shall:

- Prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the construction site
- Protect all trees and vegetation from damage by construction operations and equipment, except where clearing is required for permanent works, approved construction roads, or excavation operations
- Revegetate damaged areas on completion of the Works, and for areas that cannot be revegetated, scarifying the work area to a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion
- Use, as much as possible, local species for replanting and species that are not listed as a noxious weed

- Repair, replant, reseed or otherwise correct, as directed by UNOPS or its representative, and at the Contractor's own expense, all unnecessary destruction, scarring, damage, or defacing of the landscape resulting from the Contractors operations
- Transport labor and equipment in a manner to avoid as much as possible damage to grazing land, crops, and property

Protection of the Existing Installations

The Contractor shall:

- Safeguard all existing buildings, structures, works, pipes, cables, sewers, or other services or installations from harm, disturbance or deterioration during construction activities
- Coordinate with local authorities to identify existing infrastructure that might not be visible
- Repair any damage caused by the Contractor's activities, in coordination with concerned authorities.
- Take all reasonable precautions to prevent or reduce any disturbance or inconvenience to the owners, tenants or occupiers of properties to the construction activities, and more generally to the public
- Maintain safe access to public and private properties that might be affected by construction activities. If necessary, provide acceptable alternative means of passage or access to the satisfaction of the persons affected.
- Avoid working during night hours.

Waste from Construction Activities

The Contractor shall:

- Collect and properly manage all solid wastes resulting from the construction activities, including construction debris and spoils, to prevent the contamination of soil and groundwater
- Remove unneeded excavation material from construction sites as soon as possible
- Agree with relevant municipalities about construction waste disposal
- Carefully select waste disposal sites, to be approved by UNOPS or its Implementing Partner
- Minimize littering of roads by ensuring that vehicles are licensed and loaded in such a manner as to prevent falling off or spilling of construction materials, and by sheeting the sides and tops of all vehicles carrying mud, sand, other materials or debris
- Transfer construction waste to assigned places in the selected waste disposal sites with documented confirmation.
- Properly dispose of solid waste and debris at designated permitted sites waste disposal sites allocated by the local authorities, and obtain a receipt of waste from the authorized landfill authority.

Air Quality

The most common pollutant involved in fugitive emissions is dust or particulate matter (PM) that is released during the transport and open storage of solid materials, and from exposed soil surfaces, including unpaved roads. Accordingly, the Contractor shall:

- Use dust control methods, such as covers, water suppression, or increased moisture content for open materials storage piles, or controls, including air extraction and treatment through a baghouse or cyclone for material handling sources, such as conveyors and bins;
- Use water suppression for control of loose materials on paved or unpaved road surfaces. Oil and oil by-products are not a recommended method to control road dust.
- Use wheel washes at quarries, ready-mix plants, construction sites, and other facilities to prevent track-out of mud, dust and dirt on to public road.
- Regularly clean road surfaces within the construction sites to remove accumulated fine material, and regularly clean transportation vehicles.

- Cover open bodied trucks handling sand, gravel or earth.
- Minimize smoke from diesel engines by regular and proper maintenance, in particular by ensuring that the engine, injection system and air cleaners are in good condition.

Hazardous and Toxic Materials

Toxic and deleterious wastes resulting from the Contractor's activities require special attention in order to forestall their introduction into the natural environment which could result in harm to people, aquatic life or natural growth of the area. Accordingly, the Contractor shall:

- Train workers regarding the handling of hazardous materials
- Label using easily understandable symbols, and provide material safety data sheets, for chemical substances and mixtures according to the Globally Harmonized System (GHS) of classification and labelling of chemicals.
- Store hazardous materials as per the statutory provisions of the Manufactures, Storage and Import of Hazardous Chemicals Rules (1989), under the Environment (Protection) Act, 1986.
- Provide adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids,
- Use impervious surfaces for refueling areas and other fluid transfer areas
- Train workers on the correct transfer and handling of fuels and chemicals and the response to spills
- Provide portable spill containment and cleanup equipment on site and training in the equipment deployment
- Deposit or discharge toxic liquids, chemicals, fuels, lubricants and bitumen into containers for salvage or subsequent removal to off-site locations.
- Treat hazardous waste separately from other waste
- Avoid the storage or handling of toxic liquid adjacent to or draining into drainage facilities.
- Keep absorbent materials or compounds on Site in sufficient quantities corresponding to the extent of possible spills.
- Locate landfill pits for the disposal of solid waste at least 100 m from water courses, and fencing them off from local populations.
- Ensure adequate primary treatment of sanitation effluents and installing septic tanks away from village watering points.

Area Signage

The Contractor shall:

- Appropriately mark hazardous areas.
- Install warning signs including proper lighting around worksites, especially around manholes and work for sewer and water distribution lines.
- Ensure that signage is in accordance with international standards and is well known to, and easily understood by workers, visitors and the general public as appropriate.
- Demarcate work sites with safety tape, fencing or barricades, as appropriate, to prevent unauthorized access to the construction sites
- Safeguard public safety by covering holes and by installing guardrails along temporary pathways.

Borrow Pits and Quarries⁴⁹

Materials required for site fill, backfill or the construction of permanent works that are not available

⁴⁹ Contractors should consider doing borrow pits on a willing-buyer willing-seller (renter) basis to avoid involuntary land acquisition.

from the surface will be obtained from borrow areas and quarries that the Contractor will identify, subject to approval by the UNOPS or its Implementing Partners.

The Contractor shall adhere to the following standards when siting, developing, operating, and reinstating borrow pits and quarries:

- Obtain all necessary permits for borrow pits and quarry operations.
- Locate quarry sites as far away from settlements as possible. Quarry operations will produce noise and dust that will impact on nearby inhabitants even if controls are imposed.
- Fence and secure quarry sites. Steep quarry faces are a hazard to people and livestock.
- Locate borrow pits and quarries at least 100 m from watercourses or human habitations.
- Conduct a pre-blasting inspection/survey, in consultation with residents/property owners, prior to operating a quarry, to document the existing condition of buildings and identify any sensitive structures, building components or contents. The site conditions and the inspection information should be used to design the blasting operation to avoid any effects to property.
- Locate, to the extent possible, borrow pits on land that is not used for cultivation and is not wooded.
- Avoid areas of local historical or cultural interest and locate pits more than 25 m of grave sites.
- Hide, to the extent possible, pits from the road. Quarries and borrow pits should be designed to minimize visible scarring of the landscape.
- Develop a borrow pits and quarry management plan, including a plan to reinstate borrow pits and quarry sites as closely as possible to their original state

Location of Worker Camps

The Contractor shall:

- Consult and negotiate with local stakeholders before proposing a location for its camps.
- Submit the proposed locations to UNOPS or its Implementing Partner for approval, including a justification for their location, as well proposed measures to mitigate the environmental and social risks and impacts around the camp and to enhance social benefits.

Decommissioning of Camps, Worksites and Plant

The Contractor shall:

- Clear construction sites of any equipment or waste, and ensuring that the sites are free from contamination.
- Dispose of or recycle any equipment or waste in an appropriate and environmentally sound manner.
- Hand construction sites over to the original owners, taking into account his/her wishes and national legislation.

Health and Safety

Contractors will collaborate with other contractors in applying health and safety requirements, when workers from more than one contractor are working together in one location, without prejudice to the responsibility of each party for the health and safety of its own workers.

Severe Weather and Facility Shutdown

The Contractor shall:

- Design and build work place structures to withstand the expected elements for the region and designate an area designated for safe refuge, if appropriate.
- Develop Standard Operating Procedures (SOPs) for project or process shut-down, including an evacuation plan.

Lavatories and Showers

The Contractor shall:

- Provide adequate lavatory facilities (toilets and washing areas) for the number of people expected to work at the construction sites, and make allowances for segregated facilities, or for indicating whether the toilet facility is “In Use” or “Vacant”.
- Provide toilet facilities with adequate supplies of hot and cold running water, soap, and hand drying devices.
- Where workers may be exposed to substances poisonous by ingestion and skin contamination may occur, provide facilities for showering and changing into and out of street and work clothes.

Potable Water Supply

The Contractor shall:

- Provide adequate supplies of potable drinking water from a fountain with an upward jet or with a sanitary means of collecting the water for the purposes of drinking
- Ensure that water supplied to areas of food preparation or for the purpose of personal hygiene (washing or bathing) meets drinking water quality standards

Clean Eating Area

The Contractor shall:

- Where there is potential for exposure to substances poisonous by ingestion, make suitable arrangements to provide clean eating areas where workers are not exposed to the hazardous or noxious substances

Personal Protective Equipment (PPE)

The Contractor shall:

- Identify and provide at no cost appropriate PPE to workers, the workers of subcontractors, as well as to visitors, which gives adequate protection without incurring unnecessary inconvenience to the individual
- Ensure that the use of PPE is compulsory.
- Provide sufficient training in the use, storage and maintenance of PPE to its workers and workers of its subcontractors.
- Properly maintain PPE, including cleaning when dirty and replacement when damaged or worn out;
- Determine requirements for standard and/or task-specific PPE based on of Job specific Safety Analysis (JSA);
- Consider the use of PPE as a last resort when it comes to hazard control and prevention, and always refer to the hierarchy of hazard controls when planning a safety process.

Noise

The Contractor shall institute appropriate measures to reduce the exposure of workers to construction noise, including but not limited to:

- Avoid exposure to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection. In addition, no unprotected ear should be exposed to a peak sound pressure level (instantaneous) of more than 140 dB(C).
- Enforce the use of hearing protection should be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110 dB(A).

- Provide hearing protective devices capable of reducing sound levels at the ear to at most 85 dB(A).
- Reduce the “allowed” exposure period or duration by 50 percent for every 3 dB(A) increase in excess of 85 dB(A).
- Perform periodic medical hearing checks on workers exposed to high noise levels.
- Rotate staff to limit individual exposure to high levels.
- Install practical acoustical attenuation on construction equipment, such as mufflers.
 - Use silenced air compressors and power generators
 - Keep all machinery in good condition
 - Install exhaust silencing equipment on bulldozers, compactors, crane, dump trucks, excavators, graders, loaders, scrapers and shovels.
- Post signs in all area where the sound pressure level exceeds 85 dB(A).
- Shut down equipment when not directly in use
- Provide advance notice to occupants if an activity involving high level impact noise is in close proximity to buildings.

Working in Sewers

The Contractor shall:

- Ensure that a safety supervisor/officer is onsite at all times.
- Supervise and control all access to sewers, and maintain logbook of all workers working in sewers, including worker’s names, start time and finish time,
- Control access to each sewer that is worked on, to ensure that only workers with a specific written permission and Permit to Work (PTW) in confined spaces can enter
- Ensure that: (i) all workers in a sewer are in continuous communication with an above ground safety watcher at the top of the manhole and a safety supervisor; (ii) a trained first aid responder is always available on site, with ready access to a first aid kit and oxygen; (iii) the above ground crew has the means to rescue workers in the sewer in the event of an emergency and to transport affected workers ; (iv) the nearest well-equipped health facility has been identified, and the time required to reach it has been assessed.
- Rotate all workers in a sewer after one shift
- Properly ventilate sewers and confirm that each sewer is free from any toxic and harmful gases, or any other risks, before allowing access to it.
- Ensure that all workers entering a sewer are properly trained regarding the risks of working in a sewer and the required safety measures
- Ensure that all workers entering a sewer or other confined spaces wear appropriate PPE, including: (i) for above ground work: full face respiratory cartridge, disposable coverall/overall, safety footwear with disposable boot cover.) for upper ground work; (ii) for underground work; a Self-Contained Breathing Apparatus, eye protection (safety goggles), hard hat/helmet, gloves, disposable overalls and boot cover, full body harness, and lifeline.
- Provide proper access and egress to sewers through sanitation manholes.
- Limit work in sewers to daytime only. Work in sewers at night is proscribed.
- Never allow a worker to be in a sewer by himself.
- Provide suitable lighting inside the sewers during work hours.
- Vaccinate all workers working in sewers against the diseases that might infect them because of working in sewers

First Aid and Accidents

The Contractor shall:

- Ensure that qualified first-aid by qualified personnel is always available. Appropriately equipped first-aid stations should be easily accessible throughout the place of work.
- Provide workers with rescue and first-aid duties with dedicated training so as not to inadvertently aggravate exposures and health hazards to themselves or their co- workers.

Training would include the risks of becoming infected with blood-borne pathogens through contact with bodily fluids and tissue.

- Provide eye-wash stations and/or emergency showers close to all workstations where immediate flushing with water is the recommended first-aid response.
- Provide dedicated and appropriately equipped first-aid room(s) where the scale of work or the type of activity being carried out so requires.
- Equip first aid stations and rooms with gloves, gowns, and masks for protection against direct contact with blood and other body fluids.
- Make widely available written emergency procedures for dealing with cases of trauma or serious illness, including procedures for transferring patient care to an appropriate medical facility.
- Immediately report all accidental occurrences with serious accident potential such as major equipment failures, contact with high-voltage lines, exposure to hazardous materials, slides, or cave-ins to UNOPS.
- Immediately investigate any serious or fatal injury or disease caused by the progress of work by the Contractor, and submit a comprehensive report to UNOPS.

Communicable Diseases

Sexually-transmitted diseases (STDs), such as HIV/AIDS, are the communicable diseases of most concern because of labor mobility. Recognizing that no single measure is likely to be effective in the long term, the Contractor shall implement a combination of behavioral and environmental modifications to mitigate communicable diseases:

- Conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all construction site staff (including all the Contractor's employees, all subcontractors of any tier, consultants' employees working on the site, and truck drivers and crew making deliveries to the site for Works and Services executed under the Contract, concerning the risks, dangers and impact, and appropriate avoidance behavior of communicable diseases.
- Provide for active screening, diagnosis, counselling and referral of workers to a dedicated national STD and HIV/AIDS program, (unless otherwise agreed) for all Site staff and labor.
- Provide male or female condoms to all Site staff and workers, as appropriate.
- Provide treatment through standard case management in on-site or community health care facilities.
- Ensure ready access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant workers.
- Promote collaboration with local authorities to enhance access of workers families and the community to public health services and ensure the immunization of workers against common and locally prevalent diseases.
- Provide basic education on the conditions that allow the spread of other diseases such as COVID-19, Lassa Fever, Cholera and Ebola. The training should cover sanitary hygiene education.
- Prevent illness in immediate local communities by:
 - Implementing an information strategy to reinforce person-to-person counselling addressing systemic factors that can influence individual behavior as well as promoting individual protection, and protecting others from infection, by encouraging condom use
 - Training health workers in disease treatment
 - Conducting immunization programs for workers in local communities to improve health and guard against infection
 - Providing health services
 - Contracting an HIV service provider to be available on-site

COVID-19⁵⁰

In the context of the COVID-19 pandemic, Contractors shall develop and implement measures to prevent or minimize an outbreak of COVID-19, and develop procedures indicating what should be done if a worker gets sick. The Contractor shall:

- Assess the characteristics of the workforce, including those with underlying health issues or who may be otherwise at risk
- Confirm that workers are fit for work, including temperature testing and refusing entry to sick workers
- Consider ways to minimize entry/exit to site or the workplace, and limit contact between workers and the community/general public
- Train workers on hygiene and other preventative measures, and implement a communication strategy for regular updates on COVID-19 related issues and the status of affected workers
- Treat workers who are or should be self-isolating and/or are displaying symptoms
- Assess risks to continuity of supplies of medicine, water, fuel, food and PPE, taking into account international, national and local supply chains
- Reduce, store and dispose of medical waste
- Adjust work practices to reduce the number of workers and increase social distancing
- Expand health facilities on-site compared to usual levels, develop relationships with local health care facilities and organize for the treatment of sick workers
- Build worker accommodations further apart, or have one worker accommodation in a more isolated area, which may be easily converted to quarantine and treatment facilities, if needed
- Establish a procedure to follow if a worker becomes sick (following WHO guidelines)
- Implement a communication strategy with the community, community leaders and local government in relation to COVID-19 issues on the site.

Vector-Borne Diseases

Reducing the impact of vector-borne disease on the long-term health of workers is best accomplished by implementing diverse interventions aimed at eliminating the factors that lead to disease. The Contractor, in close collaboration with community health authorities, shall implement an integrated control strategy for mosquito and other arthropod-borne diseases that includes the following measures:

- Prevent of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements
- Eliminate unusable impounded water
- Increase water velocity in natural and artificial channels
- Consider the application of residual insecticide to dormitory walls
- Implement integrated vector control programs
- Promote the use of repellents, clothing, netting, and other barriers to prevent insect bites
- Use chemoprophylaxis drugs by non-immune workers and collaborating with public health officials to help eradicate disease reservoirs
- Monitor and treat circulating and migrating populations to prevent disease reservoir spread
- Collaborate and exchange in-kind services with other control programs in the project area to maximize beneficial effects
- Educate project personnel and area residents on risks, prevention, and available treatment
- Monitor communities during high-risk seasons to detect and treat cases
- Distribute appropriate education materials
- Follow safety guidelines for the storage, transport, and distribution of pesticides to minimize the potential for misuse, spills, and accidental human exposure

⁵⁰ Based on the World Bank COVID-19 LMP Template, April 16, 2020

Road safety and Traffic Safety

The Contractor shall ensure traffic safety by all project personnel during displacement to and from the workplace, and during the operation of project equipment on private or public roads. The Contractor shall adopt best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public, including:

- Emphasize safety aspects among drivers
- Improve driving skills and requiring licensing of drivers
- Institute defensive driving training for all drivers prior to starting their job
- Adopt limits for trip duration and arranging driver rosters to avoid overtiredness
- Avoid dangerous routes and times of day to reduce the risk of accidents
- Use speed control devices (governors) on trucks, and remote monitoring of driver actions
- Require that drivers and co-passengers wear seatbelts, and duly sanction defaulters.
- Regularly maintain vehicles and use manufacturer approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure.

Where the project may contribute to significant changes in traffic along existing roads the Contractor shall:

- Commence activities that affect public motorways and highways, only after all traffic safety measures necessitated by the activities are fully operational.
- Arrange diversions for providing alternative routes for transport and/or pedestrians
- Minimize pedestrian interaction with construction vehicles, particularly at crossing points to schools, markets, and any animal crossing points of significance, through appropriate signage, engineered footpaths or traffic slowing devices.
- Organize meaningful road accident awareness events at all roadside schools and communities within 150 meters of the road centerline, covering safe road crossing, road accident hazards from weather conditions and vehicle roadworthiness, overloading and driver alertness, dangers posed by parked and broken-down vehicles, etc.
- Collaborate with local communities and responsible authorities to improve signage, visibility and overall safety of roads, particularly along stretches located near schools or other locations where children may be present.
- Collaborate with local communities on education about traffic and pedestrian safety (e.g., school education campaigns).
- Coordinate with emergency responders to ensure that appropriate first aid is provided to all affected persons in the event of accidents.
- Use locally sourced materials, whenever possible, to minimize transport distances, and locate associated facilities such as worker camps close to project sites.
- Employ safe traffic control measures, including road signs, traffic cones, removable barriers, and flag persons to warn of dangerous conditions.

Cultural Heritage⁵¹

The Contractor shall:

- Develop and adopt a Chance Find Procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered, including:
 - determine whether cultural heritage is expected to be found, either during construction or operations
 - train construction crews and supervisors to spot potential archaeological finds
 - keep records and ensure expert verification
 - provide chain of custody instructions for movable finds

⁵¹ Particular care must be taken when opening or operating quarries

- notify the Department of Archaeology at the Ministry of Culture or a local university, for quick assessment and action
- define clear criteria for potential temporary work stoppages required for rapid disposition of issues related to the finds.
- Avoid indirect damage to existing cultural heritage, such as affecting masonry through vibration

Emergencies

The Contractor shall:

- Establish and maintain an emergency preparedness and response system, in collaboration with appropriate and relevant third parties including to cover: (i) the contingencies that could affect personnel and facilities of the project to be financed; (ii) the need to protect the health and safety of project workers; (iii) the need to protect the health and safety of the Affected Communities. The emergency preparedness and response system shall include:
 - Identification of the emergency scenarios
 - Specific emergency response procedures
 - Training of emergency response teams
 - Emergency contacts and communication systems/protocols (including communication with Affected Communities when necessary)
 - Procedures for interaction with government authorities (emergency, health, environmental authorities)
 - Permanently stationed emergency equipment and facilities (e.g., first aid stations, firefighting equipment, spill response equipment, personal protection equipment for the emergency response teams)
 - Protocols for the use of the emergency equipment and facilities
 - Clear identification of evacuation routes and muster points
 - Emergency drills and their periodicity based on assigned emergency levels or tiers
 - Decontamination procedures and means to proceed with urgent remedial measures to contain, limit and reduce pollution within the physical boundaries of the project property and assets to the extent possible.

Stakeholder Engagement

As part of the overall Project Stakeholder Engagement⁵², the Contractor will undertake a process of stakeholder engagement with representative persons and communities directly affected by the activities it undertakes, including if necessary, the public disclosure of its C-ESMP. The Contractor shall also maintain throughout the Project good relations with local communities and will give these communities prior notice of plans and schedules as they might affect local people.

The stakeholder engagement process will also be applicable in the event of land acquisition associated with changes in the footprint of activities.

Labour Force Management

Labour Influx

The Contractor shall:

- Establish worker camps when accommodation supply is insufficient for workers, including subcontractors and associated support staff
- Locate worker camps away from environmentally sensitive areas
- Build additional/separate roads to project and workers' camp sites

⁵² The overall process of stakeholder engagement is described in the Project Stakeholder Engagement Plan (SEP)

- Organize the commute from camp to project to reduce traffic
- Ensure workers' camp and associated facilities are connected to a septic tank or other wastewater systems that are appropriate and of sufficient capacity for the number of workers and local conditions
- Avoid contamination of fresh water sources
- Provide opportunities for workers to regularly return to their families
- Provide opportunities for workers to take advantage of entertainment opportunities away from rural host communities
- Ensure that children and minors are not employed directly or indirectly on the project, and keep registration and proof of age for all employees on-site.
- Pay adequate salaries for workers to reduce incentive for theft
- Pay salaries into workers' bank accounts rather than in cash
- Get an appropriate mix of locally and non-locally procured goods to allow local project benefits while reducing risk of crowding out of and price hikes for local consumers
- Create supervised leisure areas in workers' camp;
- Establish substance abuse prevention and management programs
- Hire workers through recruitment offices, and avoid hiring "at the gate" to discourage spontaneous influx of job seekers
- Identify authorized water supply source and prohibiting use from other community sources;
- Separate service providers for community and workers' camp/construction site;
- Put in place measures to reduce water and electricity consumption;
- Employ locals to the extent possible;
- Develop and adopt a Gender Action Plan to promote the transfer of construction skills to local women, to facilitate their employment at the Project site, including training and recruitment targets.

Labor Conditions

The Contractor shall:

- Implement the measures and commitments defined in the Project Labor Management Procedures.
- Provide all workers with terms and conditions that comply with Yemeni Labor Legislation, most particularly Decree 5/1995) and applicable International Labour Organization conventions on workplace conditions.
- Put in place workplace processes for project workers to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health. Project workers who remove themselves from such situations will not be required to return to work until necessary remedial action to correct the situation has been taken. Project workers will not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal.
- Avoid all forms of forced or compulsory labor, i.e., all work or service which is exacted from any person under the threat of a penalty and for which the person has not offered himself or herself voluntarily.

Insurance

The Contractor shall:

- Protect the health of workers involved in onsite activities, as indicated in Chapter X of Yemen's Labor Code
- Compensate any employee for death or injury

Grievance Mechanism for Workers

The Contractor shall put in place a Grievance Mechanism for its workers and the workers of its subcontractors that is proportionate to its workforce. The GM for workers shall be distinct from the Project level Grievance Mechanism described in the Project Stakeholder Engagement Plan (SEP) for affected individuals and communities, and shall adhere to the following principles:

- *Provision of information.* All workers should be informed about the grievance mechanism at the time they are hired, and details about how it operates should be easily available, for example, included in worker documentation or on notice boards.
- *Transparency of the process.* Workers must know to whom they can turn in the event of a grievance and the support and sources of advice that are available to them. All line and senior managers must be familiar with their organization's grievance procedure.
- *Keeping it up to date.* The process should be regularly reviewed and kept up to date, for example, by referencing any new statutory guidelines, changes in contracts or representation.
- *Confidentiality.* The process should ensure that a complaint is dealt with confidentially. While procedures may specify that complaints should first be made to the workers' line manager, there should also be the option of raising a grievance first with an alternative manager, for example, a human resource (personnel) manager.
- *Non-retribution.* Procedures should guarantee that any worker raising a complaint will not be subject to any reprisal.
- *Reasonable timescales.* Procedures should allow for time to investigate grievances fully, but should aim for swift resolutions. The longer a grievance is allowed to continue, the harder it can be for both sides to get back to normal afterwards. Time limits should be set for each stage of the process, for example, a maximum time between a grievance being raised and the setting up of a meeting to investigate it.
- *Right of appeal.* A worker should have the right to appeal to the World Bank or national courts if he or she is not happy with the initial finding.
- *Right to be accompanied.* In any meetings or hearings, the worker should have the right to be accompanied by a colleague, friend or union representative.
- *Keeping records.* Written records should be kept at all stages. The initial complaint should be in writing if possible, along with the response, notes of any meetings and the findings and the reasons for the findings. Any records on SEA shall be registered separately and under the strictest confidentiality.
- *Relationship with collective agreements.* Grievance procedures should be consistent with any collective agreements.
- *Relationship with regulation.* Grievance processes should be compliant with the national employment code.

Protection from Sexual Exploitation and Abuse⁵³

The Contractor shall:

- Provide repeated training and awareness raising to the workforce about refraining from unacceptable conduct toward local community members, specifically women
- Inform workers about national laws that make sexual harassment and gender-based violence a punishable offence which is prosecuted
- Prohibit its employees from exchanging any money, goods, services, or other things of value, for sexual favors or activities, or from engaging any sexual activities that are exploitive or degrading to any person.
- Develop a system to capture gender-based violence, sexual exploitation and workplace sexual harassment related complaints/issues.

⁵³ UNOPS has prepared a Sexual Abuse and Exploitation (SEA) and Sexual Harassment (SH) Prevention and Response Plan for the Project

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

Protection from Child Labor

The Contractor shall:

- Verify that workers are older than 18 when hiring
- Exclude all persons under the age of 18.
- Review and retain copies of verifiable documentation concerning the age of workers

Code of Conduct

The Contractor shall ensure that all employees, including those of subcontractors, are informed about and sign the following Code of Conduct:

CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We the Contractor [enter name of Contractor] have signed a contract with UNOPS for [enter description of the activities]. These activities will be carried out at [enter the Site and other locations where the activities will be carried out]. Our contract requires us to implement measures to address environmental and social risks related to the activities, including the risks of sexual exploitation and assault and gender-based violence.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the activities. It applies to all our staff, including laborers and other employees at the at all the places where the activities are being carried out. It also applies to the personnel of every subcontractor and any other personnel assisting us in the execution of the activities. All such persons are referred to as "Contractor's Personnel" and are subject to this Code of Conduct.

This Code of Conduct identifies the behavior that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

Required Conduct

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
4. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
5. wearing required personal protective equipment;
6. using appropriate measures relating to chemical, physical and biological substances and agents; and
7. following applicable emergency operating procedures.
8. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
9. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
10. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
11. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to,

profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed projects, sexual exploitation occurs when access to or benefit from Bank financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;

12. not engage in Sexual Assault, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of “rape”, especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
13. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
14. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation and Assault (SEA);
15. report violations of this Code of Conduct; and
16. Not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the Grievance mechanism for Contractor’s Personnel or the project’s Grievance Mechanism.

Raising Concerns

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contacting the Individual designated by the Contractor [enter name of Contact]
2. In writing at this address []
3. By telephone at []
4. In person at []
5. Calling [] to reach the Contractor’s hotline and leave a message (if available)

The person’s identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

Consequences of Violating the Code of Conduct

Any violation of this Code of Conduct by Contractor’s Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

For Contractor’s Personnel

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [enter name of Contractor’s contact person with relevant experience in handling gender-based violence] requesting an explanation.

Name of Contractor’s Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

A copy of the code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor’s personnel (including sub-contractors and day workers), and affected persons.]

Contractor Environmental and Social Reporting

The Contractor shall report major work-related incidents, accidents or loss of life to UNOPS or the relevant Implementing Partner **within 24 hours** of their occurrence.

The Contractor shall monitor, keep records and report on the following environmental and social issues:

- *Safety*: hours worked, lost time injury (LTI), lost workdays, recordable incidents and corresponding Root Cause Analysis (lost time incidents, medical treatment cases), first aid cases, high potential near misses, and remedial and preventive activities required (for example, revised job safety analysis, new or different equipment, skills training, and so forth).
- *Environmental incidents and near misses*: environmental incidents and high potential near misses and how they have been addressed, what is outstanding, and lessons learned.
- *Major works*: those undertaken and completed, progress against project schedule, and key work fronts (work areas).
- *ESHS requirements*: noncompliance incidents with permits and national law (legal noncompliance), project commitments, or other ESHS requirements.
- *ESHS inspections and audits*: by the Contractor, UNOPS and its Implementing Partners, or others—to include date, inspector or auditor name, sites visited and records reviewed, major findings, and actions taken.
- *Workers*: list of workers at each site, confirmation of ESHS training, indication of origin (expatriate, local, nonlocal nationals), gender, age with evidence that no child labor is involved, and skill level (unskilled, skilled, supervisory, professional, management).
- *Training on ESHS issues*: including dates, number of trainees, and topics.
- *Footprint management*: details of any work outside boundaries or major off-site impacts caused by ongoing construction—to include date, location, impacts, and actions taken.
- *External stakeholder engagement*: highlights, including formal and informal meetings, and information disclosure and dissemination—to include a breakdown of women and men consulted and themes coming from various stakeholder groups, including vulnerable groups (e.g., disabled, elderly, children, etc.).
- *Details of any security risks*: details of risks the Contractor may be exposed to while performing its work—the threats may come from third parties external to the project.
- *Worker grievances*: details including occurrence date, grievance, and date submitted; actions taken and dates; resolution (if any) and date; and follow-up yet to be taken—grievances listed should include those received since the preceding report and those that were unresolved at the time of that report.
- *External stakeholder grievances*: grievance and date submitted, action(s) taken and date(s), resolution (if any) and date, and follow-up yet to be taken—grievances listed should include those received since the preceding report and those that were unresolved at the time of that report. Grievance data should be gender-disaggregated.
- *Major changes to Contractors environmental and social practices*.
- *Deficiency and performance management*: actions taken in response to previous notices of deficiency or observations regarding ESHS performance and/or plans for actions to be taken should continue to be reported to UNOPS until it determines the issue is resolved satisfactorily.

Annex 6.

Grievance Complaint, and Suggestion Form

نموذج لألية التظلمات والشكاوى

استمارة توثيق ومتابعة شكاوى المستفيدين من المشروع الطارئ لرأس المال البشرى في اليمن

"Documenting and Monitoring Complaints Form of Beneficiaries of Yemen Emergency Human Capital Project"

		الاسم الثلاثي للمستفيد: Beneficiary Name	
Tel No. for رقم الهاتف للمتابعة للمتابعة follow up		رقم البطاقة الشخصية: ID No.	
		العنوان الدائم: Permanent Address	
		اسم النشاط المنفذ (مركز/وحدة) Name of activity under implementation	
المحافظة: Governorate	المديرية: District	القرية: Village	مكان تنفيذ النشاط: Place of activity under implementation

أخرى Other	مالية Financial	فنية Technical	إدارية Administrative	نوع الشكاوى Complaint Type

موضوع الشكاوى:

Complaint Subject

		الوضع الحالي: Current Situation	
		أسباب المشكلة: Reason of the problem	
توقيع صاحب الشكاوى: Complainant Signature		التاريخ: Date	

- الجهة التي يجب أن يقدم لها الشكاوى: UNOPS/Sana'a – Tel: 01 504914/915 - SMS:739888388 Email: GRM.yemen@unops.org ..

The entity which the complaint should be forwarded to:

-الراي في جدية الشكاوى: Opinion on the seriousness of the complaint

-الجهة المحول لها الشكاوى: The complaint transferred to

The complaint transferred to

- المدة الزمنية اللازمة للبت في الشكاوى: Time required for response

Time required for response

-مدى رضى المستفيد عن الاستجابة لحل شكواه: Satisfaction of beneficiary in responding to his/her complaint

Satisfaction of beneficiary in responding to his/her complaint

		الإجراءات المتخذة: Action taken	
التاريخ: Date		ما ترتب عليها من نتائج: The results of the action taken	

اسم مستلم الشكاوى ووظيفته: Name of person received the complaint and his/her position

Name of person received the complaint and his/her position

توقيع الموظف المختص/ Signature

التاريخ: Date