



Environmental and Social Management Framework (ESMF)

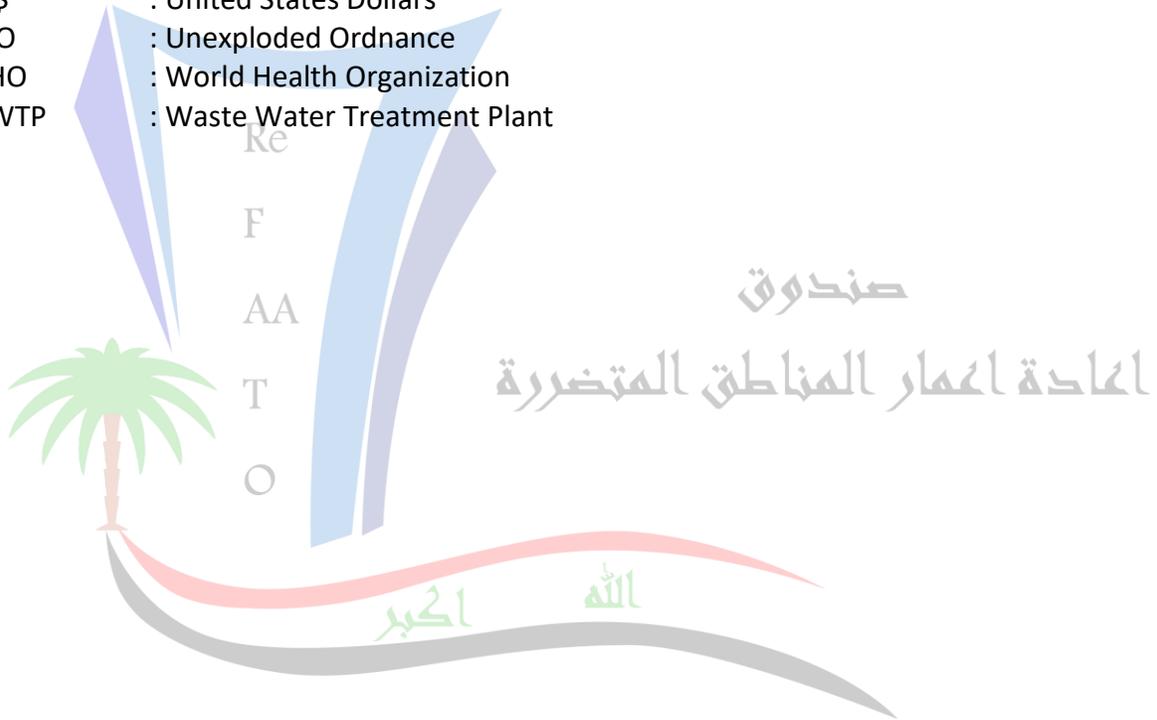
Iraq: Emergency Operation for Development Project (EODP)

(P155732)

CURRENCY EQUIVALENTS ABBREVIATIONS AND ACRONYMS

°C	: Degree Celsius
°F	: Degree Fahrenheit
%	: Percent
BCM	: Billion Cubic Meter
DRB	: Directorate of Roads Bridges
EA	: Environmental Assessment
EERP	: Emergency Electricity Reconstruction Project
EHSG	: Environmental, Health and Safety Guidelines
EMP	: Environmental Management Plan
EOD	: Explosive Ordnance Disposal
EODP	: Emergency Operation for Development
EOI	: Expression of Interest
E&S	: Environmental and Social
ESAP	: Environment and Social Action Plan
ESIA	: Environment and Social Impact Assessment
ESMF	: Environmental and Social Management Framework
ESMP	: Environment and Social Management Plan
EWR	: Explosive War Remnants
FY	: Financial Year
GDP	: Gross Domestic Product
GOI	: Government of Iraq
GRS	: Grievance Redress Service
GSCOM	: General Secretariat of the Council of Ministers
IBRD	: International Bank for Reconstruction and Development
IDA	: International Development Association
IDPs	: Internally Displaced Persons
IEDs	: Improvised explosive devices
IFC	: International Finance Corporation
ISIS	: Islamic State of Iraq and Syria
IUCN	: The International Union for Conservation of Nature
Km	: Kilometer
Km ²	: Square Kilometer
mg/l	: milligram per liter
m ³	: Cubic meter
M&E	: Monitoring and Evaluation
MENA	: Middle East and North Africa
MoCH	: Ministry of Construction and Housing
MoE	: Ministry of Electricity
MoH	: Ministry of Health
MoMPW	: Ministry of Municipalities and Public Works
NSWMP	: National Solid Waste Management Plan
OP/BP	: Operation Policy/Best Practice
PAD	: Project Appraisal Document

PCR	: Physical Cultural Resources
PCU	: Project Coordination Unit
PDO	: Project Development Objective
PMT	: Project Management Team
PMU	: Project Management Unit
Qty	: Quantity
RAP	: Resettlement Action Plan
RPF	: Resettlement Policy Framework
SBA&H	: State Board of Antiquities & Heritage
TA	: Technical Assistance
TOR	: Terms of Reference
UN	: United Nations
UNOCHA	: United Nations Office for the Coordination of Humanitarian Affairs
UNMAS	: United Nations Mine Action Service
US\$: United States Dollars
UXO	: Unexploded Ordnance
WHO	: World Health Organization
WWTP	: Waste Water Treatment Plant



EXECUTIVE SUMMARY

1. Introduction

1.1 Background

Owing to multiple shocks, economic growth is declining in Iraq and also affecting humanitarian outcomes. The impact of the double shock of the ISIS insurgency and the decline in oil prices has affected the economy. The government's recovery strategy is to jump-start the delivery of basic infrastructure and services and rehabilitate critical infrastructure in the liberated areas from the insurgency. In response to the request of the Government of Iraq, the World Bank's support, through the proposed Emergency Infrastructure and Services Restoration Program for Iraq, is aimed at supporting the Republic of Iraq in the reconstruction of damaged infrastructure and restoration of public services delivery in Targeted Municipal Areas.

The Project will be implemented in urban agglomerations of Tikrit, Al- Dour, Al-Alam and Al Dhuluiya located in the Salah Al-Din Governorate as well as urban agglomerations of Jallawla, As-Sadiya and Al-Azeem located in Diyala Governorate. In addition, suburban areas, villages and infrastructure across open range land may also be included for project-financed activities.

The common feature for all project interventions is the strict adherence to pre-existing footprints of buildings, structures and linear infrastructure, which was damaged or destroyed during combat activities when ISIS moved into the areas, and was pushed out again, and vandalism, sabotage, and retribution acts during ISISs occupation.

1.2 Project Development Objective

The Project development objective is to support the Republic of Iraq in the reconstruction of damaged infrastructure and the restoration of public services delivery in Targeted Municipal Areas.

1.3 ESMF

As the Iraq - Emergency Operation for Development Project (EODP) is prepared under the provisions of paragraph 12 of OP10 for projects in situations of urgent need for assistance or capacity constraints, the preparation of safeguards instruments has been deferred to the implementation period, and an Environmental and Social Action Plan (ESAP) was developed as a planning instrument (Annex 1). This ESAP specifies, that after project effectiveness, but before any relevant project activities commence, the Project Owner will prepare an Environmental and Social Management Framework (ESMF) that covers the entire scope of potential investment sub-projects (e.g. housing, road repairs, transmission lines, bridges, energy production facilities, etc.), divides them into typologies along environmental and social criteria and impacts, and for each typology defines the suggested, specific instruments and processes. This will also be the instrument that is disclosed and consulted, before any physical activities start. The ESMF also includes a positive list of likely activities and investments to be financed, and a negative list of activities, equipment, and goods that will not be financed by the project due to their potential, negative environmental impacts.

2. Project Description

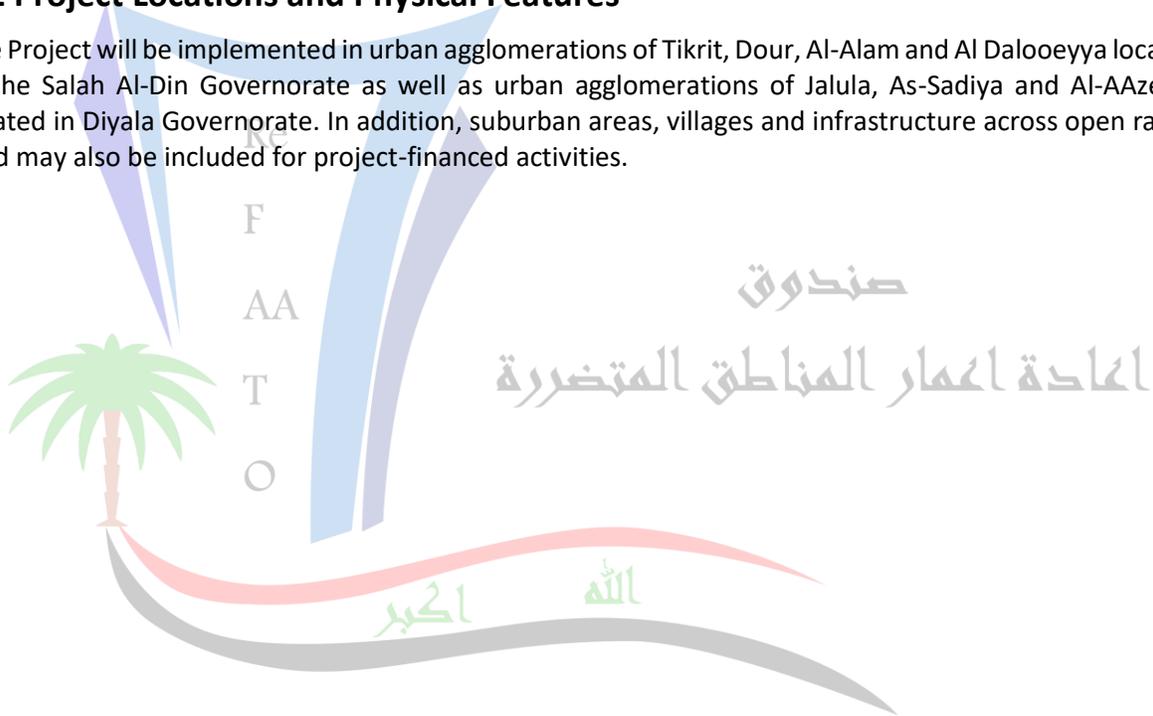
2.1 Overview

The project will adopt an integrated and pragmatic approach to the reconstruction and rehabilitation damaged infrastructure and housing in conflict-affected cities in Iraq. For the water, energy and transport sectors, this will be conducted through the repair and reconstruction of damaged infrastructure in the areas of electricity transmission and distribution networks, municipal waste, water, sanitation, roads and bridges, and health.

The project will also support technical assistance towards planning and designing urban development and future infrastructure schemes and will also support project management, sensitization and monitoring and evaluation component. The design of the project components provides flexibility to include newly liberated and secure municipal areas.

2.2 Project Locations and Physical Features

The Project will be implemented in urban agglomerations of Tikrit, Dour, Al-Alam and Al Dalooeyya located in the Salah Al-Din Governorate as well as urban agglomerations of Jalula, As-Sadiya and Al-AAzeem located in Diyala Governorate. In addition, suburban areas, villages and infrastructure across open range land may also be included for project-financed activities.



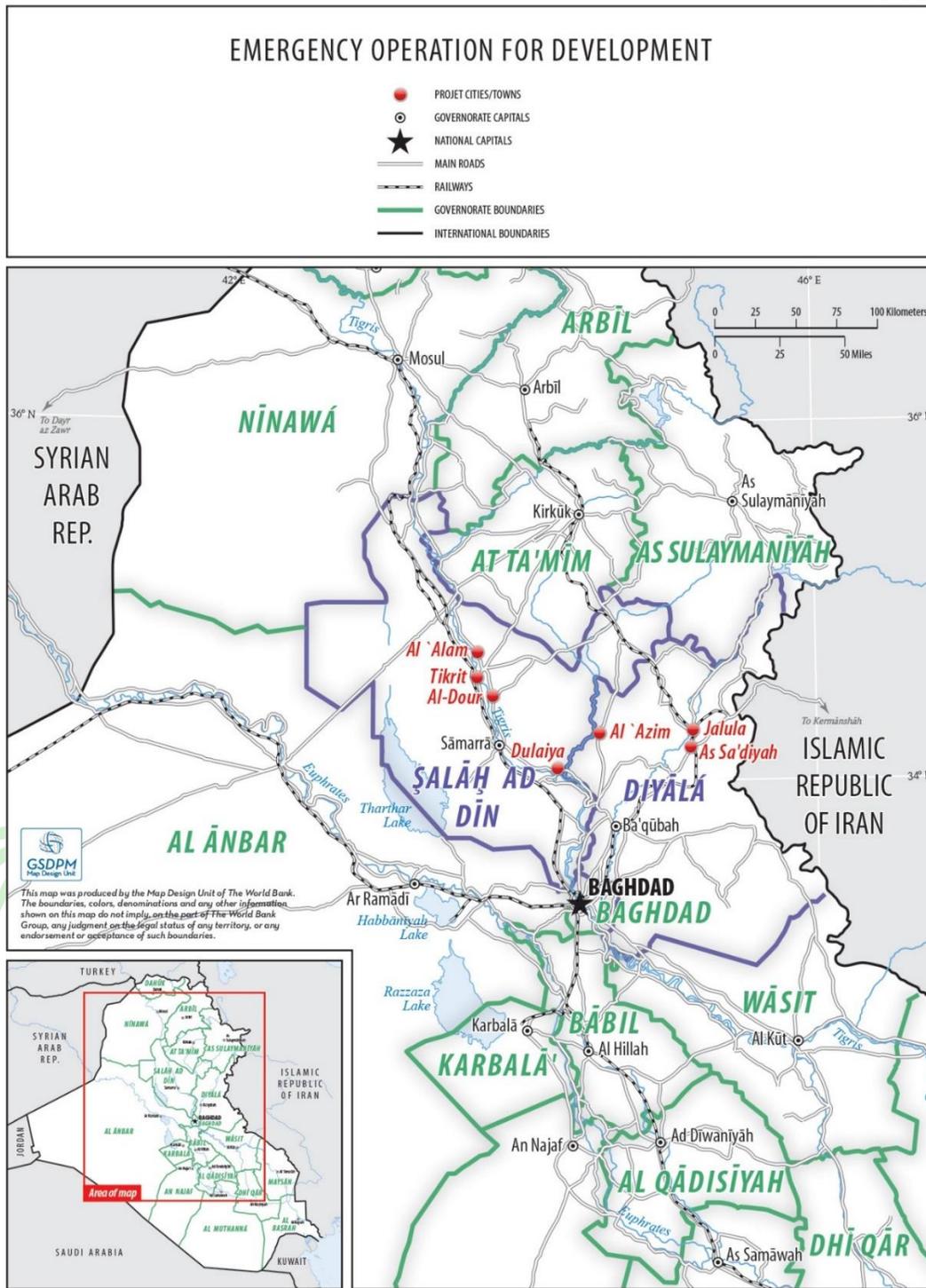


Figure 1: Republic of Iraq: Emergency Operation for Development

2.3 Project Components

The individual project components are as follows: (1) Electricity; (2) Municipal Waste, Water and Sanitation; (3) Housing and Transport; (4) Health (5) Technical Assistance; and (6) Project Management, Sensitization and Monitoring and Evaluation.

3. LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 National Legislations and Regulations

The project is subject to the following Iraqi laws and regulations:

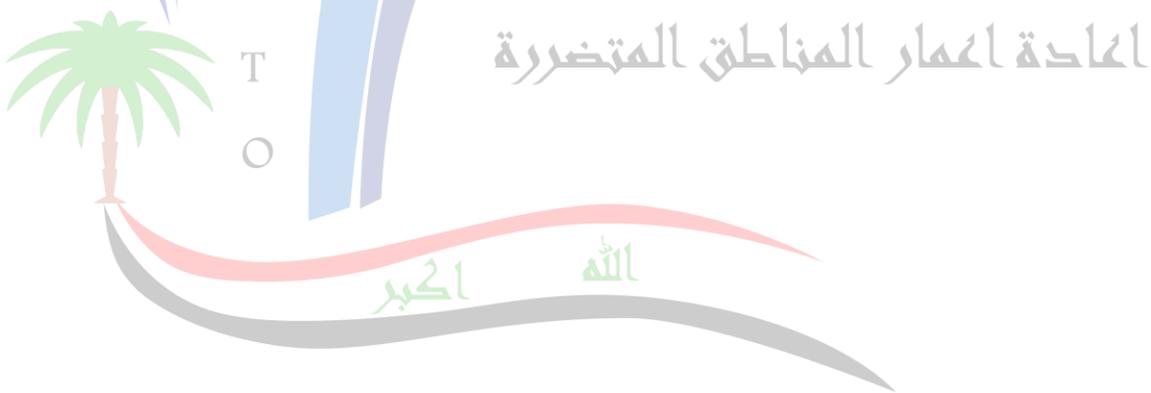
- Law no. 37 for the year 2008: The Ministry of Environment
- Law no. 27 for the year 2009: Protection and Improvement of Environment
- Regulations no. 2 for the year 2001: Preservation of Water Resources
- Law on 17 for the year 2010: Protection of Wild Animals and Birds
- Law no. 55 for the year 2002: The Law of Antiquities and Heritage

3.2 World Bank Safeguard Requirements

In addition to the Iraqi laws and regulation the ESMF and subsequent ESMPs should comply with the safeguards policies and procedures of the World Bank—specifically OP/BP 4.01 on Environmental Assessment, Physical Cultural Resources (OP4.11), Involuntary Resettlement (OP/BP 4.12), and International Waterways (OP7.50) are triggered for this Project.

Under the Bank's safeguard requirements, the EODP has been assigned an EA Category "B" given that the nature of the proposed activities which will not have highly significant adverse environmental and social impacts.

In addition, due to the nature of the EODP activities, the General and Industry guidelines on Environmental, Health and Safety Guidelines (EHSGs) in particular the General Guidelines and Sector Guidelines for Construction and Decommissioning should be used as appropriate¹.



¹ See ifc.org/ehsguidelines

4. Baseline Conditions

4.1 Overview

The common feature for all project interventions is the strict adherence to pre-existing footprints of buildings, structures and linear infrastructure, which was damaged or destroyed during combat activities. The majority of interventions is expected in urbanized areas, which are generally characterized by the nonexistence of environmentally sensitive areas or natural habitats of importance - being in urbanized areas - which require special attention or protection.

4.2 Climate

4.2.1 General

The climate of Iraq is mainly a hot desert climate or a hot semi-arid climate to the northernmost part. Averages high temperatures are generally above 40 °C (104 °F) at low elevations during summer months (June, July and August) while averages low temperatures can drop to below 0 °C (32 °F) during the coldest month of the year during winter. Most of the rainfall occurs from December through April and averages between 100 and 180 millimeters annually.

The wind regime is characterized by the winds prevailing from the western and north- western direction throughout the year. In spring the south of Iraq often occur south-west winds accompanied by dust storm. Mean annual wind velocity reading 2.1-3.9 meter per second, maximum register at Mosul 26 meter per second, 31 meter per second at Kirkuk and 40 meter per second near Basrah, Evaporation varies from 1300 mm in the northern region to 2450 mm. in the central region of which 400-500mm. occurs in both July and August only.

The climate of the Iraqi plains is sub-tropical, continental. Summer is long, hot and dry. Winter is short with mean monthly temperatures above zero and some year's daily temperature falls two to three degree below zero. Intensive cyclonic activity in the atmosphere provoking rainfall, most precipitations occurs between October and May.

4.2.2 Salah Al-Din Climate

Salah Al-din has three different climates and is dominated by BWh.

Table 1: Salah Al-Din Climate Classifications

Classification	Count	Köppen-Geiger	Examples
Hot desert climates	2121	BWh	<u>Qaryat al Haranah</u> , <u>Qaryat Albu Talhah</u> , <u>Qaryat Albu Talhah</u> , <u>Albu Talhah</u> , <u>Qaryat al Kazakazah</u>
Hot semi-arid climates	358	BSh	<u>Amirli</u> , <u>Garmak</u> , <u>Zindana i Pichuk</u> , <u>Takhta Mina</u> , <u>Chala Duana</u>
Hot-summer Mediterranean climate	1	Csa	<u>Aziz Bag</u>

4.2.3 Diyala Climate

Diyala has three different climates and is dominated by BWh.

Table 2: Diyala climate Classifications

Classification	Count	Köppen-Geiger	Examples
Hot desert climates	1489	BWh	Husaywat , Mahmud al Khalaf , Badwi al Ali , Abu Bakr , Quraish
Hot semi-arid climates	841	BSh	Chahar Shakh , Chwarshakh , Kani Shirin , Ali Khalah , http://en.climate-data.org/location/947000/
Hot-summer Mediterranean climate	93	Csa	Nawde , Nawday , Saraw , Chuardaran , Darband

4.3 Geographical features

Iraq can be divided into the following five physiographic zones (FAO/UNESCO/WMO, 1962).

- Zagros Mountain Region
- Foothills Region
- Desert Region
- Jazeera Region
- Mesopotamian Plain Region

Concerning EODP, the expected interventions and activities will take place between **Jazeera Region** and the lower fold of the **Mesopotamian Plain Region** which is mainly composed of flat plateau.

- **Jazeera Region:** includes the remnant of an old inland sea in which mainly gypsum was deposited. It is a steppe and desert plateau. The area is relatively flat broken by some hills and low mountain ridges which are an extension of the mountain ridges to the east. The mountain ridges go in an east west direction; in between there are level to undulating and at places rolling terrain.
- **Mesopotamian Plain Region:** is a geological depression filled with river sediments which covers the central and southern parts of Iraq. It is a plain of the Tigris and Euphrates rivers.

4.4 Water Resources

4.4.1 Surface Water Resources

Iraq is traversed by two major rivers, the Tigris and the Euphrates, both of which rise in the eastern mountains of Turkey and enter Iraq along its northwestern borders. Before their confluence just north of Basra, the Euphrates flows for about 1,000 km and the Tigris for some 1,300 km within Iraqi territory. Downstream from this point, the combined rivers form the tidal Shatt al-Arab waterway, which flows 190 km into the Gulf.

The Euphrates basin (579,314 km²) embraces parts of Iraq (roughly 49% of the basin). The Euphrates River does not receive water from permanent tributaries within Iraqi territory and is fed only by seasonal runoff from wadis.

Within Iraq, the Tigris River receives water from four main tributaries, the Khabour, Great Zab, Little Zab and Diyala, which rise in the mountains of eastern Turkey and northwestern Iran and flow in a southwesterly direction until they meet the Tigris.

The great alluvial plains of the Tigris and Euphrates Rivers comprise more than a quarter of Iraq's surface area. Topographically, the region is extremely flat, with a fall of only 4 cm/km over the lower 300 km of the Euphrates and 8 cm/km along the Tigris. Under natural conditions, the region was rich in wetlands and subject to annual flooding of up to 3m.

The major river flow annual cycle can be divided into three periods:

- a- spring flood period, February to June
- b- summer low flow period, July to October
- c- autumn - winter rainfall period, November to February

During spring flood period, Tigris River conveys about 75 % of the annual flow, during low flood period 10 % and 15 % during autumn period. The volume and duration of floods on the Tigris depends greatly on flood flow of the tributaries. The spring flood of Diyala tributary occur before that on the Lesser Zab, while this event precedes the spring flood on Greater Zab, The Euphrates carries 70% of annual flow during spring period, 10% in the summer period, and 20% during autumn period.

The Euphrates peak flows usually occur in the beginning of May, whereas that of the Tigris occurs is March or April.

Water quality in the Euphrates is affected by return flows from irrigation projects in Turkey and Syria, and is expected worsen as irrigated land is added. Within Iraq, much of the return flow is now drained into the Persian Gulf through the Main Outfall Drain, but considerable saline return flow enters the river system. On the Tigris River, the quality is further degraded with flood flows diverted into off-stream storage in the highly saline Tharthar Lake, and later returned to the river system carrying salts washed from the lake.

4.4.2 Groundwater

According to the hydrological map as shown in the figure below, there are no specific aquifer in the area, and according to the water table contour lines in the map the nearest water table is more than 100m away from the surface. Therefore, the interaction between the project activities and the water aquifer is not expected.

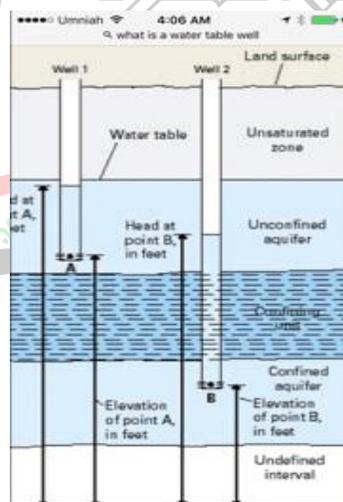


Figure 2: Hydrogeological Map in the Regions where EOPD will operate

4.5 Biodiversity

4.5.1 Ecosystem in Iraq

The combination of rain shortage and extreme heat makes much of Iraq a desert. Because of very high rates of evaporation, soil and plants rapidly lose the little moisture obtained from the rain, and vegetation

could not survive without extensive irrigation. Some areas, however, although arid, do have natural vegetation in contrast to the desert. The majority of sites important for biodiversity conservation have no protected area status, although many have been recommended for designation.

4.5.2 Mesopotamian Marshlands

The Mesopotamian marshlands are unique ecological features at the confluence of the Tigris and Euphrates. They fall into three distinct areas: Hawizeh Marsh in the north, fed by the Tigris and Karkheh rivers, the Central (Qurnah) Marsh, which lies between the Tigris and the Euphrates, and the Hammar Marsh to the south, traditionally fed by the Euphrates. These three marshes were once contiguous and covered 20,000 km². The marshes are important economically and ecologically to all peoples of this area and are of global environmental significance.

4.5.3 Biodiversity in EODP Intervention Areas

The ecosystem conditions in the areas where EODP activities will take place in are considered near the "Plateau Area" and is far from the marshlands (which is located in the east-southern part of Iraq) and far from the desert areas (located in the far west of the country). In the EODP intervention areas (plateau), the fauna and flora species are not classified as rare or endangered. These species are common and abandoned in many locations. No significant terrestrial habitats or ecosystems are present in the EODP intervention areas. The only important habitat is mainly the aquatic environment of the rivers which cross through the intervention areas.

4.6 Economic Activities and Land-use

4.6.1 Oil industry

Iraq's economy is dominated by the oil sector, which has typically provided 95% of foreign exchange earnings. Production is concentrated in two main areas, namely northern Iraq in and around Kirkuk, and, in the south, around Basra.

4.6.2 Natural gas

Iraq has 3.114 trillion m³ of proven natural gas reserves, and approximately 4.25 trillion m³ in probable reserves. About 70% of Iraq's natural gas reserves are 'associated' (meaning that the gas occurs with oil reserves). In 2001, Iraq produced 2.75 billion m³ of natural gas, down drastically from peak output levels of 19.82 billion m³ in 1979. Iraq has had a long-term strategy of increasing its domestic consumption of natural gas to free as much oil as possible for export.

The agricultural sector contributes to 35% of Iraq's non-oil GDP and up to about 30% of employment for the rural poor. The development of hydraulic infrastructure, consisting of large dams, reservoirs and distribution networks for water supply and irrigation was central to economic planning. Iraq developed more than 3 million hectares of irrigated-agricultural lands. Traditionally the main crops were wheat, barley, maize, beseem and vegetables. Crop yields for most crops are usually low when compared with other countries and rural poverty is high. Unsustainable water management practices, including construction of large dams and irrigation schemes, have resulted in deterioration of the quality of soil and land productivity.

The desert plateau provides the country's main rangeland grazing, as well as limited dryland cultivation. The uplands and mountains yield acorns, almonds, walnuts and pine nuts, with additional grazing and dryland cultivation. Irrigated agriculture occurs mainly in the alluvial plain. The principal crops include dates, wheat, barley, maize, rice and cotton, as well as a wide variety of fruit and vegetables.

4.7.3.1 Irrigation

Water use in agriculture is currently estimated at about 44 BCM per year constituting 90 percent of total abstractions. With the exception of about 1 BCM groundwater, the irrigation water is abstracted by diversion from rivers and distributed through an extensive system of barrages, irrigation canals, and on-farm channels and approximately half of the diverted water is lost in conveyance. In addition, on-farm water use efficiency is also low. Irrigation of date palms with highly saline water has been practiced since 1977, while the use of brackish groundwater for tomato irrigation has also been reported in the south of the country.



5. Assessment of environmental and social impacts and Impact mitigation framework

Guidance for identification of potential environmental and social impacts of the project components will be presented in addition to proposing general mitigation measures. At later stages and during the preparation of site specific ESMPs/ESIAs, environmental and social impacts should be carefully examined and detailed. Appropriate mitigation measures should also be discussed in relation to each subproject, baseline conditions and capacity of the implementing agency. However, it is important at the beginning to note that some subprojects will have to be excluded from financing under EODP due to their highly anticipated significant negative environmental and/or social impacts.

5.1 Ineligible Subprojects

Some of the activities or subprojects which have significant environmental and/or social impacts have been excluded from implementation under EODP. In all ESMPs or ESIAs which will be prepared prior to construction, the following exclusion list of criteria should be referred to in order to ensure that the proposed subproject is eligible for support under EODP.

Table 3: Criteria for Ineligible Subprojects

<ul style="list-style-type: none"> • General Characteristics
a) Concerning significant conversion or degradation of critical natural habitats.
b) Damages cultural property, including but not limited to, any activities that affect the following sites: <ul style="list-style-type: none"> • Archaeological and historical sites; and • Religious monuments, structures and cemeteries.
c) Requiring pesticides that fall in WHO classes IA, IB, or II.
<ul style="list-style-type: none"> • Sanitation • New wastewater treatment plants to serve 10,000 or more households.
<ul style="list-style-type: none"> • Solid Waste • New disposal site or significant expansion of an existing disposal site.
<ul style="list-style-type: none"> • Irrigation • New irrigation and drainage schemes.
<ul style="list-style-type: none"> • Dams • Construction of dams more than 5 meters high. Rehabilitation of dams more than 15 meters high.
<ul style="list-style-type: none"> • Power • New power generating capacity of more than 10 MW.
<ul style="list-style-type: none"> • Income Generating Activities • Activities involving the use of fuelwood, including trees and bush. • Activities involving the use of hazardous substances.

Note on Unexploded Ordnance (UXO):

An important precondition to infrastructure repair and reconstruction will be the removal of debris and rubble, as well as structures which have been damaged beyond economic repair in order to clear space for subsequent reconstruction works. Due to the risks of explosive war remnants (EWR) concealed in and under the rubble (both unexploded ordnance - UXO, and deliberately planted explosives) an extensive explosive ordnance disposal (EOD) would have to be an integral part of rubble removal. The GoI with assistance from the European Union, and the rest of the international community including specialized agencies such as the United Nations Mine Action Service (UNMAS) will ensure that improvised explosive devices (IEDs) and UXOs are properly detected and removed prior to works activities begin especially

where rubble is accumulated. Any rubble removal, repairs or reconstruction financed by the Bank will only apply to those areas that have been declared safe of EWRs. Confirmation that sub-Project locations have been cleared of EWR, IEDs and UXOs will be sought from the relevant authorities (the Ministries of Interior and Defense). No sub-project activities will be undertaken without this assurance. In a similar manner as the completion of the required safeguards documents, the declaration of absence of ERW will be a criterion to allow any Bank-financed works to proceed.

5.2 Preliminary Assessment of Environmental Impacts of EODP

In general following is the list of broad positive and negative impacts that are very likely to arise from the sub-projects funded under the EODP.

5.2.1 Overall positive impacts of the project

The proposed project and its subcomponents are expected to have major positive environmental and social benefits which will contribute to the improvement of the living conditions of the Iraqi people in addition to improvement in the overall environmental status in the liberated lands. The following is a list of key economic, environmental and social benefits which will result from EODP activities:

- Economic and social development of the liberated lands;
- Improved environmental conditions due to management of solid and liquid wastes;
- Reduced air pollution and traffic congestions
- Improved accessibility of people, goods and services;
- Improved public health due to provision of clean drinking water, reliable sanitation systems and municipal waste management;
- Improved safety conditions due to provision of reliable electricity service;
- Job creation and local economic development

5.2.2 Overall positive impacts of the project

The preliminary assessment of impacts that can be linked to the EODP can be generalized under (i) typical construction/rehabilitation impacts which can be mitigated with good construction practices and (ii) specific impacts that can arise due to engineering interventions proposed for some sub-projects and hence require more detailed analysis at a later stage.

In general, the following is the list of broad negative impacts that are very likely to arise from the sub-projects funded by the EODP. These impacts though occurring in most of the sub-projects will vary in extent and significance **hence individual assessment for each subproject is of utmost importance.** However for ease of presentation and reference typical construction impacts related to the project have been discussed under the following thematic categories.

Table 4: Preliminary Identification of Potential Impacts during Construction

EODP Component(s)	Activities	Receptor/EHS Aspects	Related Potential Impacts
1,2, 3	General construction activities	Air	<ul style="list-style-type: none"> • Emission of pollutants from engines of construction machinery and equipment. • Dust “lifting” due to earthwork and movement of construction trucks and equipment on unpaved roads.
		Noise	<ul style="list-style-type: none"> • Noise emission from engines of construction machinery and equipment
		Soil, subsoil and land	<ul style="list-style-type: none"> • Land occupation due to the installations in the working areas • Soil/subsoil contamination due to accidental spills and leaks from construction equipment • Improper discharge of domestic sewage from construction camps/offices. • Improper disposal of wastes from construction camps/offices.
		Solid and hazardous waste	<ul style="list-style-type: none"> • Production of construction wastes/demolition debris • Solid wastes from construction camps/offices • Improper disposal of fuel barrels, removed asphalt, paint containers, asbestos materials....etc.
		Water resources	<ul style="list-style-type: none"> • Improper disposal of debris or construction wastes on river banks • Improper discharge of domestic sewage from construction camps/offices into surface or subsurface water bodies • Water consumption for construction works
		Biodiversity and sensitive habitats	<ul style="list-style-type: none"> • Removal of trees or green cover for rehabilitation or construction purposes may result in loss of habitats • Pollution of rivers or waterways may negatively affect the aquatic ecosystem,
		Cultural heritage	<ul style="list-style-type: none"> • During rehabilitation, sites or structures of cultural significance may be negatively affected from construction works.
Socio-economic environment	<ul style="list-style-type: none"> • Temporary nuisance and inconvenience as a result of the construction activities including noise, emissions. • Influx of workers and the potential implications on communities’ privacy. • Employment, working conditions and safety of workers at the construction site • Disturbance of public health and quietness due to construction/rehabilitation activities; • Land acquisition or obstructing access to amenities due to construction/rehabilitation activities. 		

EODP Component(s)	Activities	Receptor/EHS Aspects	Related Potential Impacts
		Traffic Congestion and Detours	<ul style="list-style-type: none"> • Traffic impacts due road blockages for construction purposes and detours. This may be associated with traffic congestions, increasing commuting time and creating inconvenience to roads users.
		Health and Safety	<ul style="list-style-type: none"> • Falling from moderate heights; • Vehicle/pedestrian accidents; • Falling into trenches; • Being buried in tunnels/excavations; • Breathing dust and other air pollutants; • Back aches caused by handling heavy material; • Suffering hearing loss from noise

Table 5: Preliminary Identification of Potential Impacts during Operation

EODP Component(s)	Receptor/EHS Aspects	Related Potential Impacts
1, 2 & 3	Air	<ul style="list-style-type: none"> • Emission of pollutants due to increased traffic and mobility on the rehabilitated roads • Emissions from landfill operations • Increased emissions due to increase in electricity consumption
3	Noise	<ul style="list-style-type: none"> • Increase in noise emission due to increased traffic and mobility on the rehabilitated roads
2	Soil, subsoil and land	<ul style="list-style-type: none"> • Improper management of landfills may result in contamination of soil and land • Improper disposal of sewage • Leakages in sewage networks
2 & 4	Solid and hazardous waste	<ul style="list-style-type: none"> • Improper management of waste disposal sites and untreated sludge • Disposal of empty chemical containers used in water/wastewater treatment • Medical wastes from mobile clinics and hospitals
2	Water resources	<ul style="list-style-type: none"> • Increase in fresh water consumption • Leakages in water network
2	Biodiversity and sensitive habitats	<ul style="list-style-type: none"> • Improper disposal of sewage and wastes
1, 2 & 3	Cultural heritage	<ul style="list-style-type: none"> • Not applicable
1, 2 & 3	Socio-economic	<ul style="list-style-type: none"> • Positive Social amenities and social benefits

6. Environmental Management & Monitoring Framework

6.1 Objectives of the ESMMF

The objectives of this Environmental and Social Management and Monitoring Framework, is to outline a mechanism for analyzing and mitigating potential negative impacts and for monitoring the application and performance of mitigation measures. The ESMMF identifies roles and responsibilities for different stakeholders for implementation and monitoring of mitigations.

As explained previously, the proposed project is to be implemented in 2 governorates. Institutional and technical capacities, as well as physical and social environments may vary between them. Identical mitigation measures for all governorates may not provide the flexibility required for dealing effectively with some of the negative impacts which require taking the local context into account. Wherever applicable, the ESMMF is designed to accommodate alternative context-specific mitigations.

6.2 General Mitigation Measures

The following are general mitigation measures that need to be detailed according to each subproject and in relation to the site specific baseline conditions.

6.2.1 During Construction

With the purpose to reduce the impacts related to emissions of gaseous pollutants from construction equipment, the following mitigation measures and good practice are to be taken into account:

Air

- Employ construction machines with low emissions to reduce pollution, arranging sources of emission far from people's houses and public places
- All construction machines and vehicles should meet the standard on emissions and have passed the emission test
- No burning of wastes on site
- Limit traffic congestion through proper planning and operating of traffic diversions
- Do not let machines idle when not necessary

Concerning dust control methods and measures, the following actions are to be taken into account to reduce the generation of dust:

- Regular watering of roads for dust suppression in urban, residential areas and in areas with sensitive receptors
- Covering of excavated soil temporary stored on site
- Daily cleaning of tires of vehicles
- Covering up any vehicle transporting materials and spoil to and from construction sites
- Daily cleaning of streets and pathways in vicinity of construction site that are affected by soil and dust
- Imposing speed controls for construction vehicles

Noise and vibration

Mitigation measures foreseen to minimize the impact related to the noise emission during the bus corridor construction phase are:

- Apply appropriate schedule to avoid any works that may cause noise and vibration during 10 pm – 6 am especially near inhabited areas. Any nighttime activities should be done using noise reducing means or low-noise technologies
- Use vehicles and equipment that meet national standards for noise and vibration.
- Publishing and registering working time of construction machines with local authorities and strictly compliance therewith.
- Restricting use of noisy machines near sensitive receptors such as schools and hospitals, use noise-reducing means for construction machines, if required.

Soil, subsoil and land

- Earthwork should be carried out during dry weather periods;
- Stockpiling of earth should be done a safe distance away from waterways;
- Other construction materials containing small/ fine particles should be stored in a place not subjected to flooding;
- If necessary, silt/sedimentation traps should be used to prevent soil particles from getting into drains and canals.

Solid and hazardous waste

- Work sites should be cleared of residual solid waste and wastewater before work commences;
- Temporary storage of solid wastes shall be done with appropriate containment to avoid spreading of waste, odor and avoid dust;
- Temporary storage of solid waste should be done to avoid interfering with traffic obstacles and aesthetics;
- Sites for collecting solid waste in each sub-project area should be determined prior to commencement of construction. These sites must be suitable with the transport, in order not to obstruct the activities of human beings and the waste must be transported during the day;
- Construction wastes should be removed as much as possible within 24 hours from the site to ensure public safety in urban areas;
- All waste should be collected and disposed in compliance with the local and national laws, in sites identified by the respective local authorities;
- Excavated soil, if suitable, should be used for leveling and backfilling;
- No solid waste should be burned at the site;
- Clean the construction site of solid wastes, wastewater etc. before its closing

Domestic waste

- Construction camps should be sited appropriately with consent from the necessary public authority or the implementing agency,
- Labor camps shall be provided with adequate and appropriate facilities for disposal of sewage and solid waste
- Domestic solid waste shall be collected and disposed of daily at the local authorities designated site or given for collection by the local authorities
- Discharge and disposal domestic waste from worker camps into water sources should be strictly avoided
- Burying and burning domestic waste in the project site should also be strictly avoided
- Avoid construction workers staying overnight in the construction sites

Hazardous wastes

- Wastes identified as “hazardous” will need special handling, transportation and disposal. For contaminated sites, a hazardous waste disposal plan will need to be prepared.
- The contractor should be trained and made aware of the requirements prior to commencement of the sub-project. Special guidelines for handling of contaminated soils or hazardous wastes should be prepared and published.
- Hazardous wastes and contaminated soils should not be dumped on-site but removed to landfill/dumpsite designated by the local authority or the environmental agency as appropriate;
- Oil and lubricant waste should not be buried or burnt in the project site, but collected and stored in proper oil-cans and disposed for re-use or local authority approved designated sites.

Water resources

- Identification of the reliable water resources and obtain necessary approvals from the relevant authorities to extract water prior to commencement of construction work;
- Contractor should not obstruct or prevent water flow when working closer to water bodies;
- Silt traps and erosion control measures should be used where the construction carry out closer proximity to the water bodies to avoid entering of construction materials which cause turbidity and sediments;
- Construction material and stock piles should be covered to avoid wash off to water bodies;
- Water conservation practices should be in place in construction offices and camps;
- Camps should not be located near water ways, human settlements or near drinking water intakes.

Biodiversity and sensitive habitats

- A compensatory tree planting program should be developed to replant native species wherever available space beside the proposed project;
- Workers should be instructed to protect flora and fauna including aquatic life as well as their habitats;
- Hunting and poaching should be strictly prohibited;
- Washing, maintenance and service of vehicles and machinery should not be done closer to the freshwater habitats;
- Solid waste, construction debris should not be dump into wetlands or natural habitats.

Cultural heritage

1. Infrastructure Development

The initial impact assessment on PCRs from infrastructure development interventions under the project will be undertaken as part of the environmental screening. This would involve a site inspection and reference to maps of heritage building, property and landscapes prepared by the competent authority². The goal of environmental screening is to:

- determine the presence or absence of PCR sites within the project boundary and its area of influence
- if yes, to describe the extent, character and ownership of the PCR and investigate the significance of it
- evaluate the scope for impacts on each site in the event of project proceeding and document them.

Depending on the significance of the PCR, its ownership and location, EMPs may need to be reviewed and cleared by the SBA&H.

² State Board of Antiquities & Heritage (SBA&H)

2. Chance finds procedures

Contracts for civil works involving earth moving and excavation activities, especially in known archaeological and heritage areas, should normally incorporate procedures for dealing with situations in which buried PCRs are unexpectedly exposed.

3. Recognition of unknown PCRs

For EODP contracts, an initial consultation with the Department of Antiquities should be held before work commencement to identify the likelihood of such material being uncovered, especially where trenching work is expected for pipe laying etc. Upon discovery of such material during execution of work, the contractor should carry out the following;

- Immediately stop construction activities.
- With the approval of the resident engineer delineate the discovered site area.
- Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a night guard should be present until the responsible authority takes over.
- Through the Resident Engineer, notify the responsible authorities (SBA&H and local authorities) within 24 hours.
- Submit a brief chance find report, within a specified time period, with date and time of discovery, location of discovery, description of finding, estimated weight and dimension of PCR and temporary protection implemented.
- Responsible authorities would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out.
- An evaluation of the finding will be performed by the SBA&H who may decide to either remove the PCR deemed to be of significance, further excavate within a specified distance of the discovery point and conserve on-site, and/or extend/reduce the areas demarcated by the contractor etc.
- Construction work could resume only when permission is given from the Department of Archaeology after the decision concerning the safeguard of the heritage is fully executed.

Socio-economic

- In case of temporary or permanent land acquisition, apply the Resettlement Policy Framework (RPF)³ and the implement a Resettlement Action Plan (RAP).
- Mobilizing maximum capacity of skilled and unskilled labor force from the surrounding project area;
- Identify location of camps with consultation with the local community and local authority;
- Ensure installation of adequate construction camps and sanitation facilities for construction workers to control of transmission of infectious diseases.

Health and Safety

The proposed project interventions will mostly involve small to medium scale construction sites. As such, extreme dangers posed by working in environments such as great heights, deep water and involving dangerous chemicals and radioactive material will not be present. Health and safety of workers and the public should be designed into constructions, before and during and after the building phase.

The following safety measures can be used as general guidelines:

³ A Resettlement Policy Framework (RPF) is separately prepared which outlines the necessary procedures to be followed in case of involuntary resettlement.

Environmental Assessment for each site should mandatorily include a risk assessment as to what are the hazards involved in the work site, who might be harmed and how seriously, how likely this harm might happen and what actions are required to eliminate or reduce the risk and incorporate such measures in the EMP and clearly set out in the tender documents. All sub-projects must observe health and safety regulations, hence during implementation it is important to check if these control measures are put in place and are meeting the legal requirement.

Training

- Ensure constructors carry out suitable training programs on occupational health and safety for workers prior to commencement of construction.
- Ensure only experienced and well trained workers are used for the handling of machinery, equipment and material processing plants
- Ensure all persons, including managers, are trained and able to carry out their work without risk to the safety or health of themselves, other workers or the public

Personal Protective Equipment

- Ensure appropriate safety equipment, tools and protective clothing are provided to workers and that safe working methods are applied. A safety inspection checklist should be prepared taking into consideration what the workers are supposed to be wearing and monitored.
- Any person who works or operates in an area where there is a risk of flying objects, such as splinters, should wear safety goggles at all time. These should be securely fitted to the face. Welders should protect the entire face from hot sparks and bright rays by using a welding mask.
- Any person exposed to high levels of dust or hazardous gases (when working in tunnels) should wear respiratory protection in the form of disposal masks or respiratory masks which fit more snugly around the nose and mouth.
- Any person working in an area where there is the risk of being struck on the head by a falling or flying object should wear a hard hat at all times. These should be well maintained in order to be fully effective, and any helmets or hard hats that are damaged or cracked should immediately be replaced.
- All workers will be required to wear shoes or strong boots to prevent sharp objects from penetrating or crushing the foot. Those working in muddy conditions and in canals with polluted water should avoid hand/foot contact with water and should never wear slippers.
- Road workers should wear reflective vests to avoid being hit by moving vehicular traffic.

Site Delineation and Warning Signs

- Ensure delineation devices such as cones, lights, tubular markers, orange and white strips and barricades are erected to inform oncoming vehicular traffic and pedestrians in the area about work zones.
- Ensure all digging and installing work items that are not accomplished are isolated and warned of by signposts and flash lamps in nighttime.
- Ensure dangerous warning signs are raised to inform public of particular dangers and to keep the public away from such hazards.
- Ensure rehabilitation of trenches progressively once work is completed.
- The safety inspection checklist must look to see that the delineation devices are used, whether they are appropriately positioned, if they are easily identifiable and whether they are reflective.

Equipment safety

- Work zone workers use tools, equipment and machinery that could be dangerous if used incorrectly or if the equipment malfunctions Inspections must be carried out to test the equipment before it is used, so that worker safety can be secured. Inspections should look for evidence of wear and tear, frays, missing parts and mechanical or electrical problems.

Traffic management

- Ensure traffic control plans and procedures are in place when work zone is set up and how to handle full or partial road closure, blocked intersections, sidewalk closure etc
- Ensure installation of transport signs and lighting systems in conspicuous places to assure transport safety. Transport signs should be installed at places where accidents may be easily happened (populated centers, schools, hospitals, commercial areas etc)

Material management

- Ensure easily flammable materials are not be stored in construction site and that they are transported out of project site

Emergency Procedures

- Ensure an emergency aid service is in place in the work zone.
- Ensure all site staff is properly briefed as to what to do in the event of an emergency, such as who to notify and where to assemble for a head count. This information must be conveyed to employees by the site manager on the first occasion a worker visits the site.

Construction camps

- Ensure installation of adequate construction camps and sanitation facilities for construction workers to control of transmission of infectious diseases.

Information management

- Provide advance notice to local communities by way of information boards about the schedule of construction activities.
- Develop and establish contractor's own procedure for receiving, documenting and addressing complaints that is easily accessible, culturally appropriate and understandable to affected communities.

Worker consultation

Consulting the workforce on health and safety measures is not only a legal requirement, it is an effective way to ensure that workers are committed to health and safety procedures and improvements. Employees should be consulted on health and safety measures and before the introduction of new technology or products.

6.2.2 During Operation

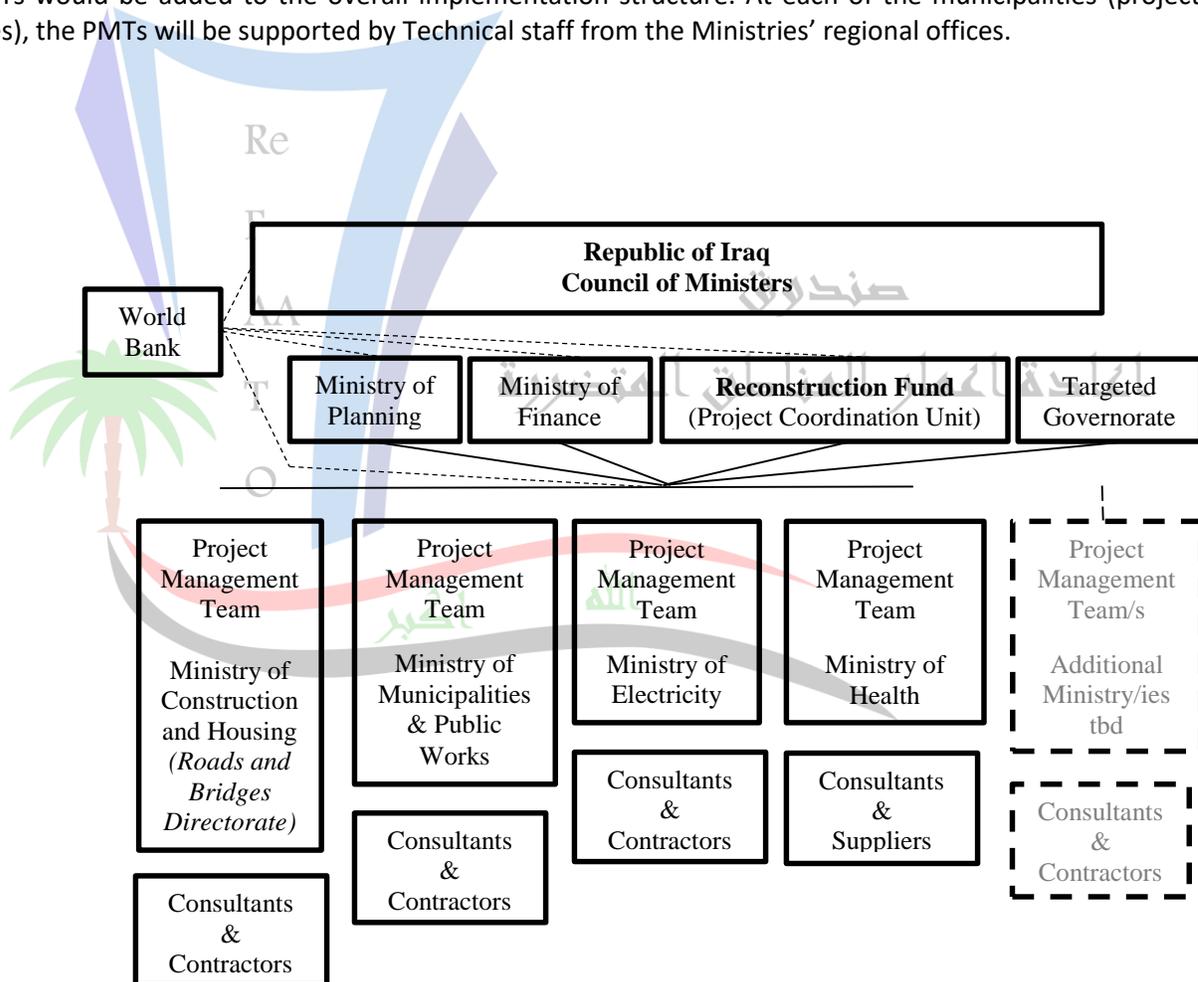
During operation, each of the EODP subprojects should follow the requirements of the national environmental legislations and maintain records to ensure continuous environmental compliance.

7. Institutional Framework for Safeguards Management

It is necessary to have a well-defined institutional and implementation mechanism for identifying, appraising, managing and monitoring safeguards at all levels. The focus of this section is to lay out the roles, responsibilities of various parties and the due diligence process that will need to take place from the preparation of an investment through implementation completion.

7.1 Overall project implementation arrangements

The overall responsibility for Project coordination lies with Iraqi Council of Ministers through a Project Coordination Unit (PCU) under the Reconstruction Fund for Areas Affected by Terroristic Operations⁴. In turn Project Management Teams (PMTs) established within counterpart Ministries will be responsible for sectoral (energy, transport, water and sanitation, municipal solid waste management, housing, health) project implementation. During implementation, additional sectors may be added to the Project, subject to these fulfilling the basic selection criteria. Furthermore, it is possible, that additional ministries and PMTs would be added to the overall implementation structure. At each of the municipalities (project sites), the PMTs will be supported by Technical staff from the Ministries’ regional offices.



To identify and prioritize the subprojects, the Ministries and their PMTs will coordinate closely with the local Governorate staff and authorities, to ensure the identified subprojects are in line with local expectations.

⁴ The Reconstruction Fund has been established by the Government of Iraq reporting to the Council of Ministers with an allocated budget of 500 trillion Iraqi Dinars, equivalent to about USD 431 million, to reconstruct damages incurred from the liberation activities from ISIS insurgency.

7.2 Implementation arrangements for environmental and social safeguards

Planning, implementation and supervision of environmental safeguards will take place at three levels;

7.2.1 PCU Level

Among its key tasks, the PCU will be responsible for providing the overall policy direction, technical assistance, review and endorsement of screening reports, environmental and social assessment and management plans, capacity building for effective safeguards management to the implementing agencies, monitoring of environmental compliance and progress reporting to the World Bank.

7.2.2 Project Management Teams (PMTs)

The responsibility of day to day planning, implementation and supervision of environmental/social safeguards specific to sub-projects will be borne by the PMTs. Each agency will assign focal point(s) for environmental and social safeguards who will ensure timely and sound application of the ESMPs to the planned investments. The environmental/social focal points will work closely with the PCU environmental/social consultants to ensure harmonization and coordination of activities according to the ESMMF requirements. The focal points for environmental and social affairs should have sufficient background to support the implementation of the ESMPs. In case of need for additional capacity, the PMTs may recruit external consultants who have sufficient expertise to support PMTs' focal points.

At the field level, it is expected that the PMTs environmental and social focal points will conduct regular field supervision to ensure compliance of contractors, their workers and practices, to the ESMPs. PMTs will also require the engineering and technical firms to recruit specialized staff in environment, social development and health and safety to conduct daily supervision on field activities and prepare non-compliance reports on which the PMT will investigate and take action accordingly.

7.2.3 Contractors

Implementation of the ESMPs will largely be the contractors' responsibility and for this the contractor will have to nominate qualified environmental, health and safety consultant and a social development consultant (if needed) in order to ensure compliance with the ESMPs during construction.

7.3 Environmental Monitoring

The EODP will focus on effective environmental monitoring. As majority of the anticipated environmental impacts from the project are general in nature and related to construction and civil works, site management, worker/public safety etc, monitoring will be largely carried out in the form of compliance monitoring through regular site supervision by the responsible officers. A general monitoring checklist and a specific construction safety monitoring checklist to be used and filled during site supervision is provided in Annexes 3 and 4. These lists should be updated and expanded to include impacts which are mostly case-specific and other site-specific environmental impacts based on actions agreed in the EMPs. Monitoring of environmental parameters (such as air, water, salinity, sediment quality, etc.) will be conducted based on the requirements specified in the individual ESMPs. However, given the ambient levels of noise and emissions in the surroundings, pollution in the waterways...etc., no significant impacts on the surroundings' environmental quality are anticipated as a result of project activities.

As such, the need for regular and systematic measuring of air, noise and water quality to monitor contribution to environmental degradation from the project per se is not considered essential except in few cases.

The overall project impacts will be monitored during project implementation through a number of selected indicators which reflect the positive environmental contribution from the project to the overall environment. As such, no additional environmental indicators are proposed.

Most importantly, the project will support independent environmental audits on an annual basis throughout project implementation.

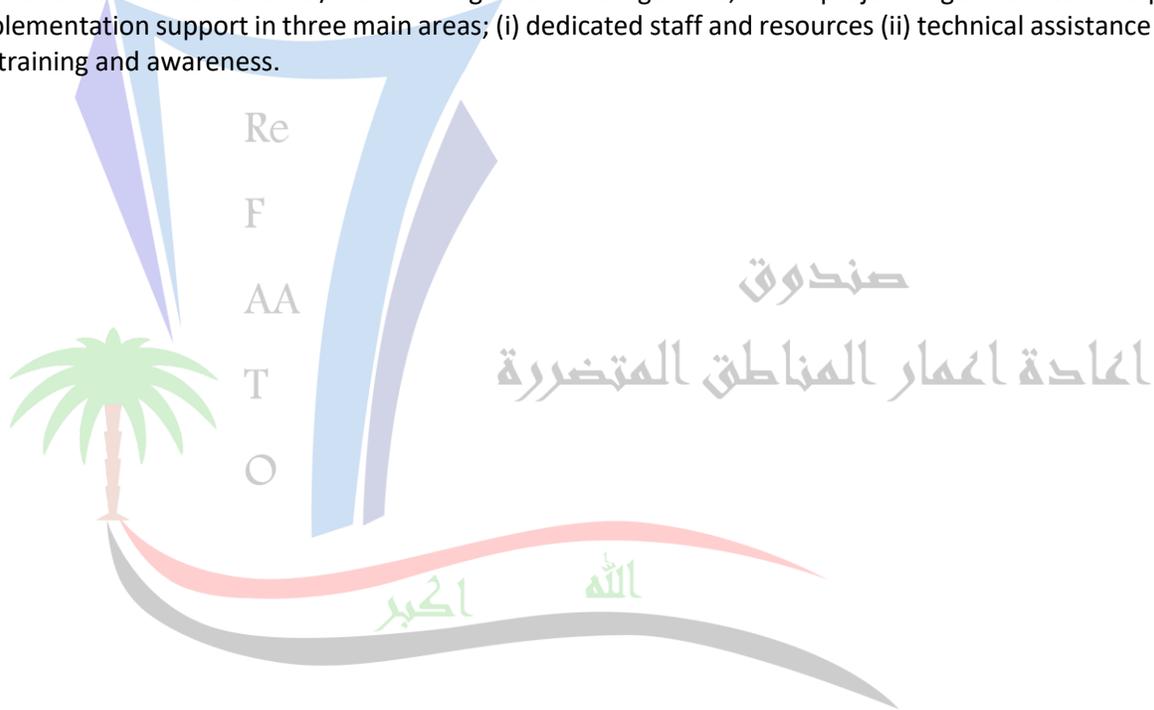
7.4 Progress Reporting

Progress reporting on safeguards compliance will take place as indicated below.

- Contractor's environmental compliance reports to the PMTs on a monthly basis;
- PMTs environmental/social progress reports to the PCU on a quarterly basis
- PCU environmental/social progress reports to the WB, Council of Ministers on a quarterly basis (this will be part of the quarterly project progress report produced by the PCU)

7.5 Capacity Development Requirements

For effective environmental/social safeguards management, the project agencies will require implementation support in three main areas; (i) dedicated staff and resources (ii) technical assistance and (ii) training and awareness.



7.6 Estimation of Environmental Safeguards implementation cost

Table 6: Estimated Cost of Environmental Monitoring

Activity	Unit	Unit Rate in US\$	Quantity	Total in US\$
1. ESMP preparation - Simple checklist - Extensive ESMP/ESIA	Checklist Report	5000 20000	100 25	1,000,000
2. Personnel	Man Month (MM)			
PCU Level - Environmental/social Consultant		3000	30	90,000
PMT Level - Environmental Officer/Consultant		3000	48	144,000
- Social development officer/consultant		3000	30	90,000
Contractor Level - Environmental Officer/Consultant - Social development officer/consultant		Included in construction costs		Included in construction costs
Sub-total (2)				324,000
3. Training and awareness				
- Training and awareness programs (short-term and long-term) - Training on sector environmental/social management issues - Training programs on environmental safeguards, monitoring for project staff, contractors...etc.	Lump-sum	Lump-sum	Lump-sum	
Sub-total (3)				100,000
4. Environmental monitoring (through independent third party institutions) to be covered in construction contracts				Included in construction costs
5. Contingencies (approx. 7% of total costs)				26,000
Total Cost				US\$ 1,450,000

8. Determination of E&S Instruments

This section will provide clear guidance on

1. which types of safeguards instruments will be required;
2. examples for damage patterns and related project typologies, ranging from simple, routine civil reconstruction works (e.g. road repair) to more complex repairs of e.g. bridges and larger structures;
3. reference to the entire anticipated scope of management, mitigation and monitoring measures (as shown in Annex 3).

8.1 Types of Safeguards Instruments

The types of safeguards instruments anticipated for the project range from abbreviated, checklist type ESMPs for simple, routine repair works, over more elaborate and comprehensive ESMPs to ESIA within clearly defined project boundaries. All project activities involving civil works on any scale will require some type of environmental / social management instrument, which will be determined and defined by the methodology presented in this section.

Most typologies within the expected scope of subprojects are expected to involve routine, simple civil works pertaining only to existing structures and footprints, where conflict-related damage was incurred. All of the expected types of interventions and civil works, e.g. repair / reconstruction of roads, transmission lines, municipal infrastructure, as well as the restoration of public services, will require safeguards instruments in form of ESMPs (E&S management plans) that would become part of the works contracts, set the E&S standards and compliance mechanisms, and serve as contractual basis for supervision and enforcement of good E&S practice during the works. However, considering the mostly simple nature of such repair and reconstruction works, for these typologies abbreviated, “checklist type” ESMPs (see Annex 4 for a template) will be prepared as appropriate safeguards instrument.

For some larger projects, e.g. reconstruction of bridges or wastewater treatment plants (WWTP), a limited ESIA (meaning within clear project boundaries) may be required (see Annex 5), as the works would be more substantial in scale, and rivers are more sensitive and vulnerable to environmental impacts. Also the ESMPs produced with input from the ESIA would be more specific on measures to protect water quality, riverine / aquatic ecosystems, and retain the hydrological regime around the bridge. Additional social considerations, such as continued access to the river for fishing and water abstraction, may become relevant. Similar principles would apply to projects that are located close to, or affecting natural habitats, including wetlands or forests.

The majority of projects, namely roads repair and reconstruction, water and energy infrastructure, and large buildings in urban and rural settings will only require the “checklist type” ESMP as appropriate due diligence instrument (see Annex 4 for template). If only minor repairs are planned for bridges and WWTP, even if in sensitive settings, that same principle applies.

The following table allocates to each component the likely type(s) of E&S instruments:

Table 7: Anticipated E&S Instruments by Component

Component / Activities	Anticipated E&S Instruments
<p>Component 1: acquisition of equipment for the repair and reconstruction of damaged electricity distribution and transmission infrastructure; through technical assistance, supervision of the implementation of Electricity Subprojects, which will include engineering and civil works.</p>	<ul style="list-style-type: none"> • No E&S instruments for sourcing for equipment • Checklist ESMPs for most planned repair and reconstruction works • Possibly specific ESMPs when encountering sensitive baseline conditions
<p>Component 2: (Year 1) urgent restoration of water, wastewater and solid waste services, repair, reconstruction and rehabilitation of damaged infrastructure; including water intakes, pipelines, treatment / purification plants, pumping stations, storage tanks, distribution networks, house connections, sewers and trunk lines, wastewater treatment plants, and storm water drains, reservoirs and outfalls.</p> <p>(Years 2 - 5) (i) additional water and sanitation damage and needs assessment, identification of further water and sanitation subprojects; (ii) preparation of detailed plans and designs; and (iii) provision of TA for implementation of water and sanitation subprojects.</p>	<ul style="list-style-type: none"> • Checklist ESMPs for most planned repair and reconstruction works • Site-specific ESMPs for larger reconstruction works (WWTP, pumping stations) combined with less sensitive baseline conditions • ESIA + ESMPs for larger reconstruction works (e.g. WWTP, pumping stations) in combination with more sensitive baseline conditions • E&S assessments and management systems will be mainstreamed into identification of further subprojects, as well as planning / design works and the TOR for supervision.
<p>Component 3 improvement of road assets, repairing and rehabilitating highly damaged segments of primary road network</p> <p>Repairing and reconstructing critical bridges and major culverts</p>	<ul style="list-style-type: none"> • Checklist ESMPs for most planned road repair and reconstruction works, site-specific ESMPs for road works in combination with more sensitive baseline conditions • Checklist ESMPs for minor bridge repair works, such as repairing the deck and surface. • site-specific ESMPs for more extensive reconstruction works (e.g. involving abutments and pylons, requiring access to river) combined with less sensitive baseline conditions • ESIA + ESMPs for more extensive reconstruction works (e.g. involving abutments and pylons, requiring access to river) in combination with more sensitive baseline conditions
<p>Component 4: Supply of mobile hospitals, mobile clinics, medical equipment and ambulances.</p>	<ul style="list-style-type: none"> • Checklist ESMPs for erection of clinics • Medical Waste Management Plans (MWMP) for operation of clinics and mobile hospitals

9. Disclosure and Consultation Activities

For all types of environmental analyses conducted under the EODP (including screening), communities in the project sites should be consulted within a structured and culturally appropriate manner. Further, environmental assessment documentation and EMPs should be made available to the public (in accordance with the World Bank's policy on Access to Information) by the PCU/PMTs prior to tendering of works contracts through the website of the project and notices through media, as appropriate.

In addition, it will be necessary to conduct discussions with the regulatory agencies on relevant issues and other implementing agencies who would have a stake in the project due to various reasons. Consultation will enable the project implementing agency to understand the stakeholder's requirements and for the stakeholders to develop an understanding of the project so that potential conflicts could be eliminated or minimized.

The process of consultation should be documented and account taken of the results of consultation, including any actions agreed resulting from the consultation. Public disclosure of the relevant safeguards documentation will be a pre-requisite for tendering civil works contracts.

The contract documents for each contract package will mandatorily include the relevant environmental mitigation provisions stipulated in the ESMPs (which would have community concerns reflected, if any) for the given sub-projects in order to ensure contractor compliance with safeguards requirements.

9.1 Results of the ESMF Public Consultation

The Draft Final ESMF has been consulted upon with a number of stakeholders. The first consultation was mainly conducted with representatives from the participating ministries in a meeting that was held on September 22, 2015 at the Reconstruction Fund headquarters in Baghdad.

The second consultation meeting was held with representatives of nine (9) Nongovernmental Organizations (NGOs) and Civil Society Organizations (CSOs) on May 16, 2016 also at the RF headquarters in Baghdad.

As an outcome of the consultation session with the NGOs/CSOs, the participants showed support to the RF's efforts and the EODP's objectives. They determined that the speedy repairs and reconstruction of damages and reinstatement of essential services should be done as soon as possible.

The participants appreciated that EODP has prepared this ESMF in order to safeguard any potential environmental or social issues which may be related to the EODP activities.

The participants also expressed readiness to support and actively participate with the project to ensure a successful implementation of EODP.

Finally, it was agreed with the participants that the consultation with the participants as well as others, from additional NGOs and CSOs to be invited in the future, will be on regular basis especially once the Citizen Engagement and community participation and consultation activities are launched.

No specific environmental or social concerns were highlighted.

CONTENTS

Executive Summary.....	- 1 -
1. INTRODUCTION.....	1
1.1 Background	1
1.2 Project Development Objective (PDO)	1
1.3 Rationale for the ESMF	1
2. Project description.....	3
2.1 Overview	3
2.3 Project Locations and Physical Features.....	3
2.2 Project Components	5
3. Legal and Institutional Framework	11
3.1 National Legislations and Regulations	11
3.2 World Bank Safeguard Requirements.....	12
3.3 Public Consultation and Disclosure.....	14
4. Baseline Conditions.....	15
4.1 Overview	15
4.2 Climate	15
4.2.1 General.....	15
4.2.3 Diyala Climate	22
4.3 Geographical features.....	28
4.4 Water Resources.....	28
4.4.1 Surface Water Resources.....	28
4.4.2 Groundwater.....	29
4.5 Biodiversity.....	30
4.5.1 Ecosystem in Iraq	30
4.5.2 Mesopotamian Marshlands	31
4.6 Economic Activities and Land-use.....	31
4.6.1 Oil industry	31
4.6.2 Natural gas	32
4.6.3 Agriculture.....	32
5. Assessment of environmental and social impacts and Impact mitigation framework.....	34
5.1 Ineligible Subprojects.....	34
5.2 Preliminary Assessment of Environmental Impacts of EODP	35
5.2.1 Overall positive impacts of the project.....	35

5.2.2 Overall positive impacts of the project.....	35
5.3 Methodology for assessment of impact significance	37
6. Environmental Management & Monitoring Framework.....	40
6.1 Objectives of the ESMMF.....	40
6.2 General Mitigation Measures	40
6.2.1 During Construction.....	40
6.2.2 During Operation	45
7. Institutional Framework for Safeguards Management	46
7.1 Overall project implementation arrangements.....	46
7.2 Implementation arrangements for environmental and social safeguards.....	47
7.2.1 PCU Level.....	47
7.2.2 Project Management Teams (PMTs).....	47
7.2.3 Contractors	47
7.3 Key roles and responsibilities of various parties involved in safeguards management	47
7.3.1 Environmental Consultant - Project Coordination Unit.....	47
7.3.2 Environmental/Social Focal Point – Project Management Team	48
7.3.3 Environmental Focal Point - Contractor	48
7.4 Environmental Monitoring.....	49
7.5 Progress Reporting.....	49
7.6 Capacity Development Requirements	49
7.6.1 Dedicated staff and resources	49
7.6.2 Short–term training and awareness programs.....	49
7.6.3 Technical assistance.....	50
7.7 Estimation of Environmental Safeguards implementation cost	50
8. Determination of E&S Instruments.....	51
8.1 Types of Safeguards Instruments.....	51
8.2 Description of E&S Instruments for the Scope of Subprojects	53
8.3 Environmental safeguards due diligence process (screening, review and approval) at the sub-project level.....	55
9. Disclosure and Consultation Activities.....	56
9.1 Objectives of stakeholder consultations.....	56
9.2 Elements of Effective Stakeholder Consultations.....	56
9.3 Suggested Methods	57
9.4 Results of the ESMF Public Consultation	57
10. Annexes:.....	59

List of Figures

Figure 1: Republic of Iraq: Emergency Operation for Development - 3 -
 Figure 2: Hydrogeological Map in the Regions where EOPD will operate - 7 -
 Figure 3: Scheme of safeguards approach and instruments for EISRP 2
 Figure 4: Republic of Iraq: Emergency Operation for Development 4
 Figure 5: Map Showing Diyala and Salah Al-Din Governorate and location within Iraq 5
 Figure 6: Hydrogeological Map in the Regions where EOPD will operate 30
 Figure 7: Iraq Land Use Map 33
 Figure 8: Decision matrix for selection of E&S instruments 52
 Figure 9: Scheme of safeguards approach and instruments for EISRP 62
 Figure 10: approach for determination of appropriate safeguards instruments 64
 Figure 11: *Screening and selection schema for E&S instruments* 109
 Figure 12: Representatives from different authorities discussing EODP activities 125
 Figure 13 : NGOs/CSOs Participants discussing EODP activities in the Consultation Session 127
 Figure 14: RF team responding to the inquiries of the participants in the consultation session 128

List of Tables

Table 1: EODP Applicable World Bank Safeguard Requirements 12
 Table 2: Salah Al-Din Climate Classifications 16
 Table 3: Diyala climate Classifications 22
 Table 4: Criteria for Ineligible Subprojects 34
 Table 5: Preliminary Identification of Potential Impacts during Construction 35
 Table 6: Preliminary Identification of Potential Impacts during Operation 37
 Table 7: Basic Impact Index 38
 Table 8: Impact Significance 39
 Table 9: Estimated Cost of Environmental Monitoring 50
 Table 10: Anticipated E&S Instruments by Component 52
 Table 11: Description of E&S instrument types for subprojects 54
 Table 12: Environmental Safeguards Identification Responsibilities 55

1. INTRODUCTION

1.1 Background

The conflict in northern Iraq has unfolded at a time of severe fiscal crisis. In the last two decades, Iraq has witnessed a dramatic fall in almost all human development indicators including poverty, health standards, life expectancy, and literacy. Extreme poverty is widespread, particularly in rural areas and a number of governorates. Owing to multiple shocks, economic growth is declining in Iraq and also affecting humanitarian outcomes. The impact of the double shock of the ISIS insurgency and the decline in oil prices has affected the economy.

The government's recovery strategy is to jump-start the delivery of basic infrastructure and services and rehabilitate critical infrastructure in the liberated areas from the insurgency. In response to the request of the Government of Iraq, the World Bank's support, through the proposed Emergency Infrastructure and Services Restoration Program for Iraq, is aimed at supporting the Republic of Iraq in the reconstruction of damaged infrastructure and restoration of public services delivery in Targeted Municipal Areas.

The Project will be implemented in urban agglomerations of Tikrit, Al- Dour, Al-Alam and Al Dhalooeya located in the Salah Al-Din Governorate as well as urban agglomerations of Jallawla, As-Sadiya and Al-Azeem located in Diyala Governorate. In addition, suburban areas, villages and infrastructure across open range land may also be included for project-financed activities.

The common feature for all project interventions is the strict adherence to pre-existing footprints of buildings, structures and linear infrastructure, which was damaged or destroyed during combat activities when ISIS moved into the areas, and was pushed out again, and vandalism, sabotage, and retribution acts during ISISs occupation.

1.2 Project Development Objective (PDO)

The Project development objective is to support the Republic of Iraq in the reconstruction of damaged infrastructure and the restoration of public services delivery in Targeted Municipal Areas.

1.3 Rationale for the ESMF

As the Iraq - Emergency Operation for Development Project (EODP) is prepared under the provisions of paragraph 12 of OP10 for projects in situations of urgent need for assistance or capacity constraints, the preparation of safeguards instruments has been deferred to the implementation period, and an Environmental and Social Action Plan (ESAP) was developed as a planning instrument (Annex 1). This ESAP specifies, that after project effectiveness, but before any relevant project activities commence, the Project Owner will prepare an Environmental and Social Management Framework (ESMF) that covers the entire scope of potential investment sub-projects (e.g. housing, road repairs, transmission lines, bridges, energy production facilities, etc.), divides them into typologies along environmental and social criteria and impacts, and for each typology defines the suggested, specific instruments and processes. This will also be the instrument that is disclosed and consulted, before any physical activities start. The ESMF also includes a positive list of likely activities and investments to be financed, and a negative list of activities, equipment, and goods that will not be financed by the project due to their potential, negative environmental impacts.

The ESMF defines the scope of Sub-project specific E&S instruments: During the implementation phase, after completion of the ESMF, specific E&S management instruments, mainly Environmental and Social Management Plans (ESMPs), but potentially Abbreviated Resettlement Action Plans (ARAPs) will be produced on a running basis for the expected typologies, e.g. repair / reconstruction of housing, roads,

transmission lines, municipal infrastructure, as well as the restoration of public services. These would become part of the works contracts, set the Environmental and Social (E&S) standards and compliance mechanisms, and serve as contractual basis for supervision and enforcement of good E&S practices during the works. For some larger projects, e.g. bridge reconstruction, a more detailed ESMP, with possibility to prepare a site specific ESIA, will be required, as the works would be more substantial in scale, and rivers may be more sensitive and vulnerable to environmental impacts. Also the ESMPs would be more specific on measures to protect water quality, riverine / aquatic ecosystems, and retain the hydrological regime around the bridge. Also, additional social considerations, such as continued access to the river for fishing and water abstraction, may become relevant. For the expected scope of subprojects, comprehensive ESIA's will not be required, as the structures and installations had existed before, and the project would only finance their repair, reconstruction or reinstatement.

The following schematic figure summarizes the types and sequence of safeguards instruments prepared during project preparation (prior to approval by World Bank Board) and implementation phase of the overall program:

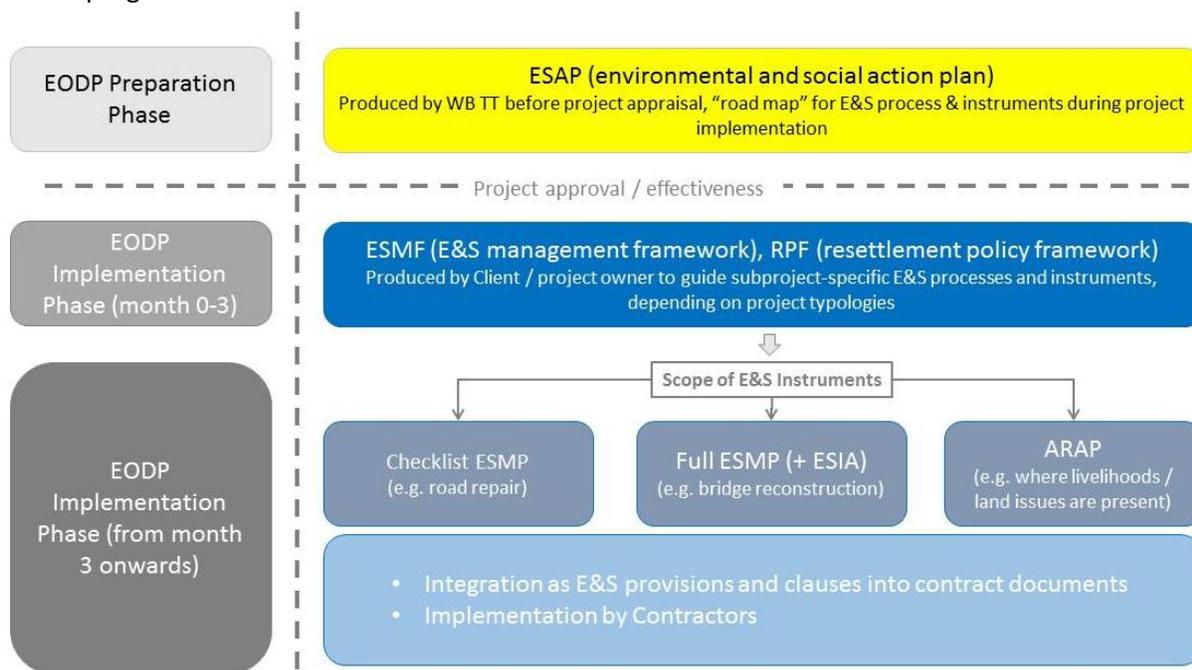


Figure 3: Scheme of safeguards approach and instruments for EISRP.

The specific instruments to be developed for identified individual sub-projects are described in detail in Section 8 of this ESMF.

2. PROJECT DESCRIPTION

2.1 Overview

The project will adopt an integrated and pragmatic approach to the reconstruction and rehabilitation damaged infrastructure and housing in conflict-affected cities in Iraq. For the water, energy and transport sectors, this will be conducted through the repair and reconstruction of damaged infrastructure in the areas of electricity transmission and distribution networks, municipal waste, water, sanitation, roads and bridges, and health. Each of these sectoral interventions are sub-divided into: Year 1 concentrates on rapid repairs/supply and installation of damaged infrastructure, as well as a damage and need assessment, moving onwards through to the end of Year 5, planning and design and procurement of emergency equipment and goods/materials; and Year 2 to 5 will concentrate on the implementation of the rehabilitation and reconstruction of works as per the damage assessment. These interventions, in addition to promoting state/citizen trust-building and reconciliation, will be designed to generate local employment opportunities and help develop the local small- and medium-sized contracting industry including demand in a number of other sectors, such as construction materials and related services. For housing, a subsidy scheme will be designed and for health mobile hospitals and primary health care units and ambulances will be delivered.

The project will also support technical assistance towards planning and designing urban development and future infrastructure schemes and will also support project management, sensitization and monitoring and evaluation component. The design of the project components provides flexibility to include newly liberated and secure municipal areas.

2.3 Project Locations and Physical Features

The Project will be implemented in urban agglomerations of Tikrit, Dour, Al-Alam and Al Dalooeyya located in the Salah Al-Din Governorate as well as urban agglomerations of Jalula, As-Sadiya and Al-AAzeem located in Diyala Governorate. In addition, suburban areas, villages and infrastructure across open range land may also be included for project-financed activities which may be located within or outside the two aforementioned governorates.

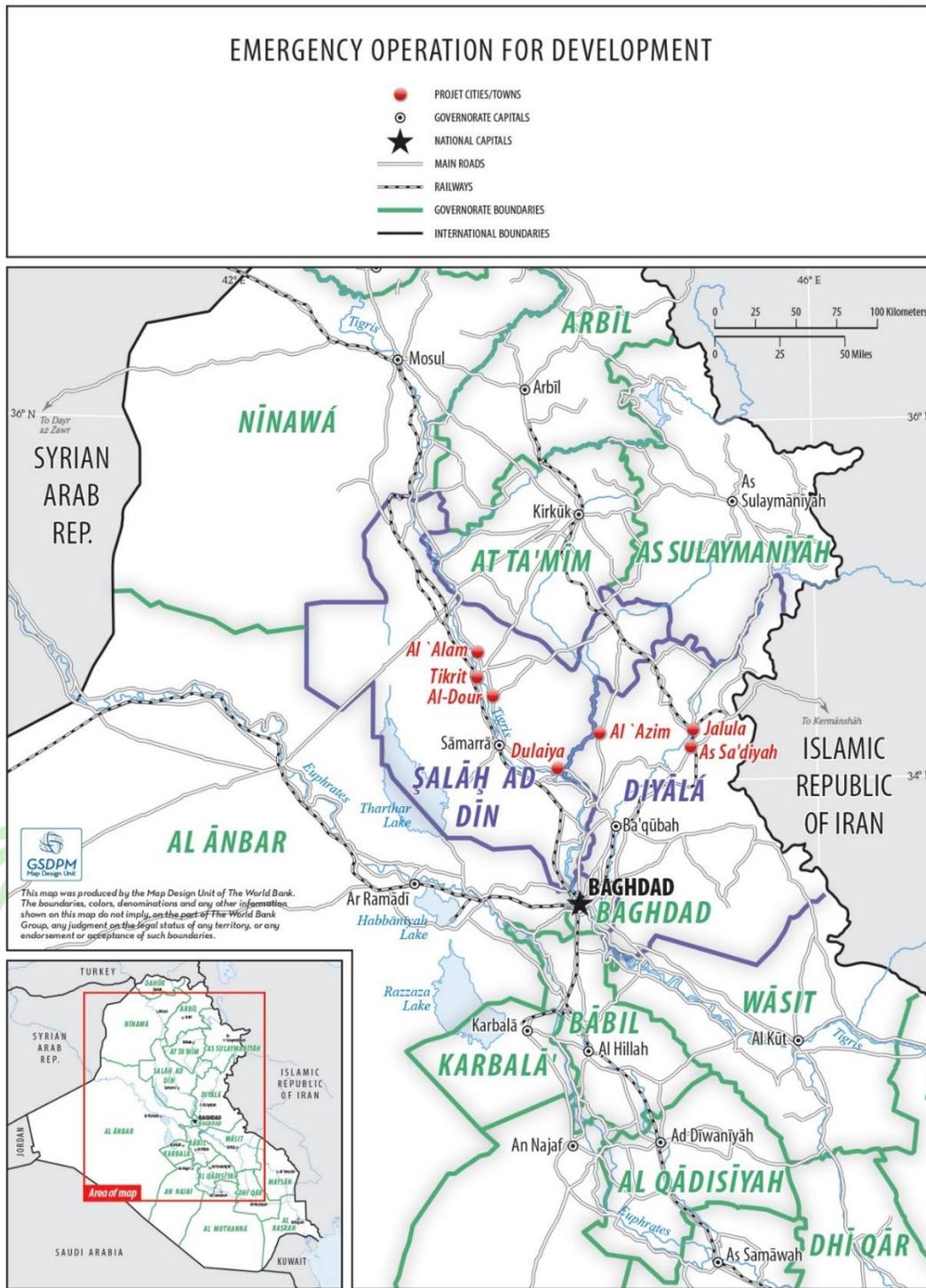


Figure 4: Republic of Iraq: Emergency Operation for Development

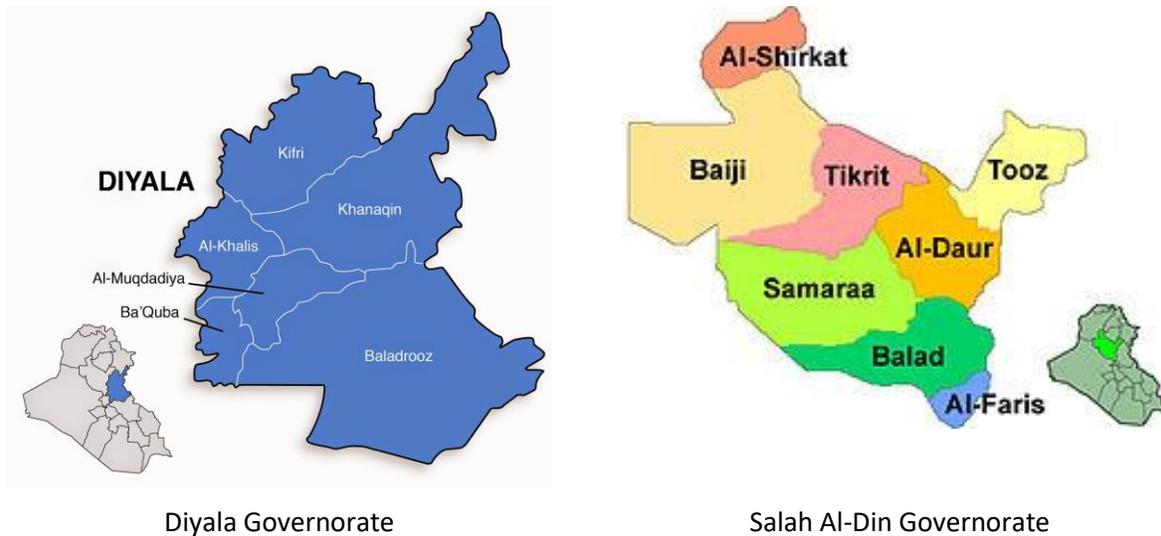


Figure 5: Map Showing Diyala and Salah Al-Din Governorate and location within Iraq

2.2 Project Components

The individual project components are as follows: (1) Electricity; (2) Municipal Waste, Water and Sanitation; (3) Housing and Transport; (4) Health (5) Technical Assistance; and (6) Project Management, Sensitization and Monitoring and Evaluation.

Component 1: Restoring Electricity Infrastructure and Connectivity

Iraq's electricity sector has suffered from more than a decade of conflict and sanctions that have left its institutions weakened and have resulted in under-investment and chronic deterioration in service delivery and infrastructure. Although Iraq's electricity sector has made progress in restoring and increasing power generation capacity (20GW nameplate capacity as of 2014), the transmission and distribution sub-sectors continue to face serious issues including significant (over 40%) losses, and hampering the provision of reliable and adequate supply to households and the private sector. Inadequate electricity is seen by Iraqis today as a top concern in comparison with other matters such as national security, health care, unemployment, crime, and high prices. Unreliable and insufficient electricity supply is creating hardship and undermining government credibility. Inadequate and poor electricity services and infrastructure also impede private sector development and negatively affect employment, economic growth and constrain attempts to address widespread poverty. According to the Investment Climate Assessment (ICA) Survey, 73 percent of the firms operating in Iraq identified the lack of sufficient electricity supply as a "very severe obstacle" to productivity, and the most significant issue affecting private sector development and job creation. According to the Integrated National Energy Strategy (developed with the Bank in 2013), the lack of reliable electricity supply costs Iraq in excess of \$43 billion per year in lost GDP.

Today, less than 10 percent of the population has continuous access (i.e. at least 20 hours a day) to electricity. With progress being made in the expansion of generation capacity, it is now in the sector's transmission and distribution network where the challenges predominantly lie. Iraq's transmission and distribution networks have suffered chronic deterioration and are now overloaded, unreliable and in need of significant investment. The poor state of network infrastructure is compounded by the absence of effective metering, billing systems, and customer management systems resulting in very high technical and non-technical losses (approximately 42% of electricity generated does not make it to the end

consumer). Even whilst electricity supply is constrained by system capacity and inefficiency, demand continues to grow unabated (over 7% per year) given the lack of any real price controls or demand side management. In addition, weak institutions, poor collection rates, and high levels of theft also contribute to increasing fiscal pressure on Iraq's public resources, and reduce the MoE's ability to meet electricity demand and customer satisfaction.

Prior to the ISIS crisis, the MoE developed investment plans totaling around USD 21 billion between 2011 and 2020 in response to an urgent need for investment in Iraq's transmission and distribution sub-sectors, supported by a comprehensive master plan developed by Parsons Brinkerhoff in 2010. The MoE has also requested the Bank's support in developing a roadmap for reform of the electricity sector and preparing a [USD500] million IBRD financing – the Electricity Distribution Reform and Investment Project (EDRIP - P150933, planned for FY2017). This project aims to finance distribution infrastructure that will reduce losses, and increase levels and reliability of electricity supply in the central and south regions of Iraq. In addition, it will also support the reform of Iraq's electricity sector institutions and operations to improve the sector's overall performance. This Project incorporates very basic, scalable design, and could also be scaled up to include more comprehensive infrastructure rehabilitation in the areas under consideration by the emergency project.

This Project would assist with the emergency supply of equipment and reconstruction of transmission and distribution infrastructure in the targeted municipal areas. Electricity supply to the seven municipalities' pre-ISIS conflict was on par with that to the rest of Iraq and reports would indicate that, although poorly maintained, was in service during the ISIS occupation. Technical Assistance will be provided for the supervision of electricity sub-projects implementation.

Component 2: Restoring Solid Waste, Water and Sanitation Services

Iraq is estimated to produce 31,000 tons of solid waste every day with per capita waste generation exceeding 1.4 kg per person per day. Rapid increase in waste generation production is putting tremendous strain on Iraqi waste handling infrastructure which have significantly deteriorated after decades of conflict and mismanagement. In the absence of modern and efficient waste handling and disposal infrastructure, most waste is disposed in unregulated landfills across Iraq, with little or no concern for both human health and environment. Iraqi landfills are characterized by spontaneous fires, groundwater contamination, surface water pollution and large-scale greenhouse gas emissions. Additionally, the management of rubble and debris resulting from armed conflict and acts of war needs attention as part of the reconstruction efforts. Special attention also needs to be given to contamination by hazardous substances that could result from war-related damages such as petroleum products and a spectrum of chemicals from small industries and storage facilities which could affect soils, rubble/debris, as well as water and groundwater in conflict-affected areas.

A National Solid Waste Management Plan (NSWMP) for Iraq was developed in 2007 and contains recommendations to build 33 environmentally engineered landfills with the capacity of 600 million cubic meters serving all of the 18 governorates in Iraq by 2027. In addition to constructing landfills the plan also focuses on the collection and transportation, and on developing systems to maximize recycling and reuse. Broad education measures would complement investments in waste management infrastructure supporting the understanding of and participation in waste management in the identified municipal areas of both communities and individuals.

In Iraq access to improved water supply and sanitation is relatively high, but the quality of that access is often low. In 2012, 94 percent of the population had access to safe sanitation. In the same year, 87 percent of the population had access to piped water supply in their houses. The quality of services

provided, however, is perceived to be low. Many households experienced regular and lengthy service interruptions in 2012 and beyond due to the lack of maintenance and interruptions in water supply. Apart from the lack of reliable water supply, the water quality provided through the public network is also poor. Further, while almost all households have universal access to sanitation facilities, collection of wastewater is not equally developed with only 28 percent of the population having access to a sanitation facility connected to a piped sewerage network. Conflict related damage to water and sanitation services has further adversely impacted service delivery.

The objective of the municipal waste, water and sewage component is to restore water, wastewater and solid waste services through the repair and rehabilitation of damaged infrastructure in selected municipalities. The repair, rehabilitation, and reconstruction of damaged infrastructure would help to reduce public health risks while generating local employment opportunities. The work will include (i) repair, reconstruct and rehabilitate existing water, wastewater, storm water and solid waste infrastructure (such as water intake, transmission lines, treatment plants, pumping stations, storage tanks, distribution networks, house connections, sewers and trunk lines, wastewater treatment plants, storm water drains) through: (i) carrying out of a water and sanitation damage and needs assessment and identification of Water and Sanitation Subprojects; (ii) preparation of detailed plans and designs for Water and Sanitation Subprojects; and (iii) provision of technical assistance for the supervision and implementation of Water and Sanitation Subprojects.

Component 3: Restoring Transport Infrastructure and Developing a Housing Reconstruction Subsidy Scheme

Successive years of conflict have limited Gol's ability to promote an enabling environment for the provision of affordable housing by the private sector and for a greater role for financial services in the construction sector. Iraq suffered from a chronic housing shortage coupled with low quality housing stock even before the latest ISIS conflict. Recent estimates indicate that almost 30%-40% of the population lives in very poor housing conditions and that at least 10% of the nation's total dwellings are overcrowded. Further, the absence of a market-based housing finance system makes it difficult for most Iraqis to afford adequate housing with housing much less affordable for Iraqis than elsewhere in the Middle East. Against such a background, the latest conflict has severely compounded the housing crisis where a large number of housing units have been destroyed or damaged.

This component will support the Gol in designing of a Housing Reconstruction Subsidy Scheme. Such a subsidy scheme will be based on past Government practices in similar situations and could be adopted by the Government for all the liberated areas in Iraq. The scheme will be enhanced taking into account efficiency and effectiveness in addressing the needs of tenants, informal settlers and mortgaged assets. Transport infrastructure (for all modes, including roads, railways, ports and airports) is key to the economic development of Iraq. However, most transport infrastructure in the affected region suffered destruction and damage as a result of recent military operations, sabotage and vandalism during the current crisis. As a result of the full or partial destruction of structures, road sections and airports, the impact to transport operations has been significant. This has led to the continued closure of a number of road and rail section for normal traffic, except for the purposes of military operations. While international transportation has been limited due to ongoing conflict, economic sanctions and safety issues, domestic air transportation has also been limited to a few routes. Negligence and lack of maintenance has further deteriorated the infrastructure. Continued use of the transport network by the military and for refugee transportation continues to negatively impact on the transport infrastructure. Additionally, much of this infrastructure suffered extensive damage and destruction during the previous conflict. Some were in the

process of rehabilitation but the current situation exacerbated the challenge. The lack of a sectoral strategy, chronic underfunding, lack of institutional capacity, and a complex conflict-affected environment compound the problem. At this juncture, the country faces enormous challenges in reconstructing its transportation networks and facilities, as well as re-establishing key transport services.

The objective of the transport component is to improve the condition of road assets by repair and rehabilitation of highly damaged segments of the primary road network and currently used detour routes in and around selected municipalities, re-establishing critical bridge crossings and functioning of major culverts. The project will also help restore the functional capacity of these road assets, i.e. to restore normal and safe traffic operations. In addition, the proposed civil works on roads and bridges would generate local employment opportunities. The work will be conducted in coordination with rubble removal and will include road structure repairs (mainly pavement, bridge decks, abutments and poles), but also shoulder stabilization, approaches to bridges, road safety signalization and equipment, and drainage repairs. The project will also support the formulation of key transformational area-based projects, including Regional Development Framework and Decentralization Plans.

Component 4: Restoring Health Services

Due to the prolonged conflict, Iraq's health sector is under strain. In the last few decades, Iraq's health care capacity has been severely undermined by the effects of different wars, international sanctions, sectarian violence and political instability. Furthermore, the growing inflow of Syrian refugees and internally displaced Iraqis in the 2012-2014 period has challenged the ability of the Government to respond to the growing health needs of the population. Once considered the best in the region, Iraq's health indicators have been deteriorating and according to World Bank 2013 data, maternal mortality in Iraq is among the highest in the region at 67/1,000 live births. Similarly, Iraq is above the regional rates for under five mortality (34/1,000 compared to 26/1000) and infant mortality (28/1,000 compared to 21/1,000). Immunization rates for Measles (63 percent), Polio (70 percent), and DPT (68 percent) are also below the regional averages at 88 percent, 90 percent, and 89 percent respectively.

The large influx of internally displaced persons (IDPs) led to a significant increase in demand for health services and a rise in communicable diseases. According to WHO latest data, acute respiratory infection (ARI), skin disease, and acute diarrhea (AD) remain the leading causes of morbidity reported from all camps. Other assessments indicate that basic laboratory services in health facilities in IDP camps are either nonexistent or insufficiently equipped to handle the growing demand for services. Communicable diseases, particularly water-borne infectious diseases is also affecting the Iraqi population, Cholera is endemic, with major outbreaks in many parts of the country. Hepatitis E is also reportedly endemic, with an approximately 20.3 percent prevalence rate. (WHO, 2013a).

The Ministry of Health (MoH) capacity to manage the provision of basic services has been jeopardized. The health system's physical infrastructure is suffering from severe deterioration due to destruction, neglect over time and consequences from the war, whereby most of the health infrastructure is in poor condition and is critically lacking human resources and essential equipment. Given this situation, there is an urgent need to address the resource shortages and build the resilience of the Iraqi health system to alleviate the currently declining health situation in the country.

The objective of the health component is to improve the delivery of essential healthcare services in selected municipalities to serve the urgent health needs of the Iraqi population. As such, this component will adopt a two-pronged approach: (i) responding to the most urgent health needs through the acquisition of mobile hospitals, mobile clinics and ambulances and (ii) technical assistance to assess and plan for mid to long-term reconstruction/rehabilitation of the health care services.

Component 5: Technical Assistance

Sectoral development: This activity will constitute a platform for the identification and [partial] preparation of a range of potential sector investment projects which would be based on a continuous strategic, medium to longer term needs assessment carried out between the Bank and the Iraqi government over the project implementation period. This needs assessment would go well beyond the project's lifetime and the scope of emergency reconstruction and restoration, and identify opportunities to build on the momentum, delivery mechanisms and implementation arrangements set up under Emergency Operation for Development Project (EODP). Likely sectors for medium to longer term development approaches could include transport (both urban and inter-urban including railways lead by the Ministry of Construction and Housing (MoCH), housing (MoCH) and water and waste management (Ministry of Municipalities and Public Works - MoMPW). Some of the outputs of the TAs would be in the form of urban development master-plans, integrated solid waste management plans and designs, and railway infrastructure rehabilitation and safety improvement plans and designs. This TA will also support the carrying out of a health sector needs assessment and development of a mid- to long term health care services master plan.

Technical assistance: TA will provide analytical and advisory services to sectoral components on a demand driven basis with likely two broad topics. The first would fall under the theme of state/citizen trust-building and promoting reconciliation in the wider project context, with likely topics being: (i) inclusive participation by local communities (ii) transparency of resource allocation, (iii) enacting measures to promote tolerance through community-led projects across different social groups, (iv) using targeted media, social media and communications campaigns to disseminate information about the project, and promote trust and solidarity, and (v) addressing local grievances through an effective redress mechanism. The second would relate to a broader assistance strategy for the reconstruction and sustainable management of physical cultural resources. This activity could include a systematic and detailed damage assessment of damaged Physical Cultural Resources (PCR), a prioritized list of required interventions, a reconstruction and restoration strategy including standards, guidelines, knowledge and technical resources, and design codes, and the identification of financing sources and setup of a pooled multi-donor fund.

Component 6: Project Management, Sensitization and Monitoring and Evaluation

This component will cover costs associated with the management and coordination of the Project, including the creation and maintenance of a monitoring and evaluation (M&E) system. This will also include communication at the national and local (seven cities) levels with beneficiaries and all other stakeholders involved in the Project including line ministries, international agencies/missions, civil society and faith based organizations. It is expected that complementary, specialized, technical inputs and their logistical support will be required to execute individual project activities and provide adequate technical guidance to the project implementing partners. This component will also cover the cost of travel, accommodation and per diem for the Project Coordination Unit (PCU) and Project Management Teams (PMTs) participating in Bank conducted supervision missions outside Iraq structures detailed in Section II below). Sensitization and communication work will aim at raising the transmission of clear and consistent messages to support the effective implementation of the project by informing, guiding, proactively managing expectations of its beneficiaries and communities about project, promoting understanding and

buy-into the process, as well as generating and sustaining broad stakeholder interest and buy-in. These activities will be initiated at the start of the project and will continue throughout the project life cycle.



3. LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 National Legislations and Regulations

The project is subject to the following Iraqi laws and regulations:

- Law no. 37 for the year 2008: The Ministry of Environment
- Law no. 27 for the year 2009: Protection and Improvement of Environment
- Regulations no. 2 for the year 2001: Preservation of Water Resources
- Law on 17 for the year 2010: Protection of Wild Animals and Birds
- Law no. 55 for the year 2002: The Law of Antiquities and Heritage

Law no. 37 of 2008 establishing the Ministry of Environment

Because of the importance of protecting and improving Environment and since Ministry of Environment bears the prime responsibility for protecting the environment and the public health to ensure the sustainable development and to achieve international and regional cooperation in this respect. This Law was legislated to define MOE structure, goals and the means of implementing them.

The law requires an agency carrying out activities that could affect the environment to prepare an environmental impact assessment. It also establishes Standards, Specifications, Principles, and Controls required to determine the projects and fields that have been submitted to evaluate the studies of environmental impact assessment and prepares lists on the these projects, and put system and procedures for environmental impact assessment.

Law no. 27 of 2009 on the Protection and Improvement of the Environment

The law aims at protecting and improving the environment through elimination and treatment of existing damages or damages likely to be caused. It also aims at preserving public health, natural resources, biodiversity as well as natural and cultural heritage; in coordination with the relevant authorities in a manner that ensures sustainable development through International and Regional cooperation in this regard. This law addresses the following major points:

- The environmental protection provisions such as importance of conducting Environmental Impact Assessment for projects that may impact the environment;
- The water protection from contamination, air quality protection and control of noise emissions, land protection, ecological protection and hazardous waste management.

Articles 10 of the Law for the Protection and Improvement of Environment further describes the procedures related to EIA studies as follows:

A project owner must be committed to providing an EIA Study prior to project commencement.

The EIA study must include the following:

- Assessment of positive and negative impacts as a result of project activities;
- Propose mitigation measures to prevent or treat contamination and pollution sources in accordance with the acceptable environmental standards and guidelines.
- Adopt and discuss measures for the prevention of potential contamination and accidental pollution.
- Assessment of alternatives in terms of utilizing proper means/technologies that cause the least negative impacts on the environment; in addition to rationalizing and managing the consumption of resources.
- Reduce and manage wastes and adopt measures for reuse or recycling wherever possible.
- Estimating the environmental feasibility of the project and estimate the cost of pollution to production ratio.

The technical and economic feasibility study for any project must be included in the EIA study as described in the first item.

Regulations no. 2 of 2001 on Preservation of Water Resources

As mentioned in article 8, it is prohibited to discharge or throw any kind or any amount of waste from the location to the common water of any kind or quantity, or whether the discharge was regular, irregular or temporary, for any reason, unless granted permission from the office of protecting and improving Environment or whom it shall authorize.

Law on 17 of 2010: Protection of Wild Animals and Birds

This law aims to protect wild animals and birds as a national resource and organize hunting areas and procedures for granting hunting permits and to identify illegal hunting practices.

Law no. 55 of 2002: The Law of Antiquities and Heritage

This law defines all movable and immovable antiquities, archaeological properties and artefacts in Iraq. It regulates communication channels between the public and the authorities for each type of contact between the public and the revealed and non-revealed archaeological sites. Regulations governing contact with archaeological sites extend also to encompass developmental activities like road construction and rehabilitation wherever these developmental activities lie within archaeological vicinity.

It should be noted that legislation relating to social safeguards issued in Iraq since 2003 has focused primarily on the ratification of international conventions and protocols on issues such as cultural heritage. As yet there are no formally adopted requirements for social assessments relating to agricultural and other infrastructural works. Hence, social safeguards issues remain very largely uncovered except to the extent they are referred to under environmental laws.

3.2 World Bank Safeguard Requirements

In addition to the Iraqi laws and regulation the ESMF and subsequent ESMPs should comply with the safeguards policies and procedures of the World Bank—specifically OP/BP 4.01 on Environmental Assessment, Physical Cultural Resources (OP4.11), Involuntary Resettlement (OP/BP 4.12), and International Waterways (OP7.50) are triggered for this Project.

Under the Bank's safeguard requirements, the EODP has been assigned an EA Category "B" given that the nature of the proposed activities which will not have highly significant adverse environmental and social impacts.

The table below presents a synthesis of the Bank's safeguards policies and indicates which ones have been triggered by project activities funded under EODP.

Table 8: EODP Applicable World Bank Safeguard Requirements

Yes	<i>If applicable, how might it apply</i>
[v]	<i>Environmental Assessment (OP/BP/GP 4.01</i> Environmental Assessment should be conducted for projects which fall under World Bank Category B. OP 4.01 is triggered as the project could have impacts on the environment due to the rehabilitation of damaged infrastructures and associated civil works. To identify and manage potential adverse impacts on the environment from project funded interventions – such as those mentioned above- the borrower will prepare an, Environmental and Social Impact Assessment (ESIA)/ Environmental and Social Management Plan (ESMP) for site-specific schemes/activities. Where ESMF is applied, the ESMP will need to be prepared, approved, and disclosed before any construction works would start on the ground.
[v]	<i>OP 4.11, Physical Cultural Resources (PCR):</i>

	<p>The proposed operations are not expected to pose risks of damaging cultural property. However, Iraq is a country extremely rich in PCR, and the destruction experienced during combat activities between ISIS and Coalition forces are highly likely to have affected historical buildings, religious sites such as mosques and shrines, and monuments. Destruction may have been random acts of war, but also targeted acts of sectarian violence. Dealing with PCR has been included into the ESMF and will be part of the planned TA component. This may identify and include assistance for the preservation of historic sites and/or re-building of damaged historical buildings. If these opportunities occur, cultural property management plans would be prepared for these subprojects.</p>
[v]	<p><i>Involuntary Resettlement (OP/BP 4.12)</i></p> <p>The need for involuntary resettlement or land acquisition in specific subproject areas will only be known during project implementation, when site-specific plans are available. Therefore, subprojects will be screened for applicability of the resettlement policy and any subprojects involving involuntary resettlement or land acquisition will only be approved after preparation of a resettlement plan acceptable to the Bank. Several issues will increase the complexity of land acquisition. For example, the lack of reliable land record systems, and the inability of people losing land to either document ownership or be physically present to make their claims for eligibility. The safeguards framework will, therefore, include procedures for identifying eligible project-affected people, calculating and delivering compensation, and mechanisms for land dispute grievance redress.</p> <p>OP 4.12 covers those persons affected by involuntary taking of land. The other social dimensions including poverty impacts, gender, and civic engagement, etc. will be covered by ESIA of site specific subprojects. The site specific ESMPs will include measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups.</p>
[v]	<p><i>OP7.50 International waterways:</i></p> <p>The project will support activities involving the rehabilitation of water supply and sanitation infrastructure and thus fall within the applicability of OP 7.50 (Projects on International Waterways). However, the project will not actually affect the hydrological flows, or water quality of any water or groundwater bodies that qualify as international waterways under this policy, because it will exclusively finance the rebuilding of pre-existing structures. Thus the exception to the riparian notification requirement under paragraph 7 (a) of OP 7.50 is applicable to the project for the following reasons: (i) this project does not respond to growing demand for water and therefore no attempt to increase water off-take from international waterways, but rather focus on repairing what has been damaged by the conflict; (ii) the rehabilitation of wastewater treatment plant(s) included into the scope of potential activities are of small scale addressing local demands, and also are not expected to be expanded or their capacity increased</p>

In view of this, the ESMF will address requirements of OP 4.01, OP 4.11 and OP 4.12.

Under the requirements of OP4.01, environmental screening enables project classification for proposed projects into three main categories, depending on the type, location, sensitivity and nature of environmental impacts.

- Category A: Significant adverse environmental impacts, broad, irreversible, major resettlement.
- Category B: The impacts are localized, short-term, and reversible and have no severe effects on the environment. Simple and low/moderate cost mitigation measures will be sufficient to restore the potential damage or keep it to the lowest possible.
- Category C: likely to have minimal or no adverse environmental impacts

As earlier explained, EODP has been classified as a Category B project.

In addition, due to the nature of the EODP activities, the General and Industry guidelines on Environmental, Health and Safety Guidelines (EHSGs) in particular the General Guidelines and Sector Guidelines for Construction and Decommissioning should be used as appropriate⁵.

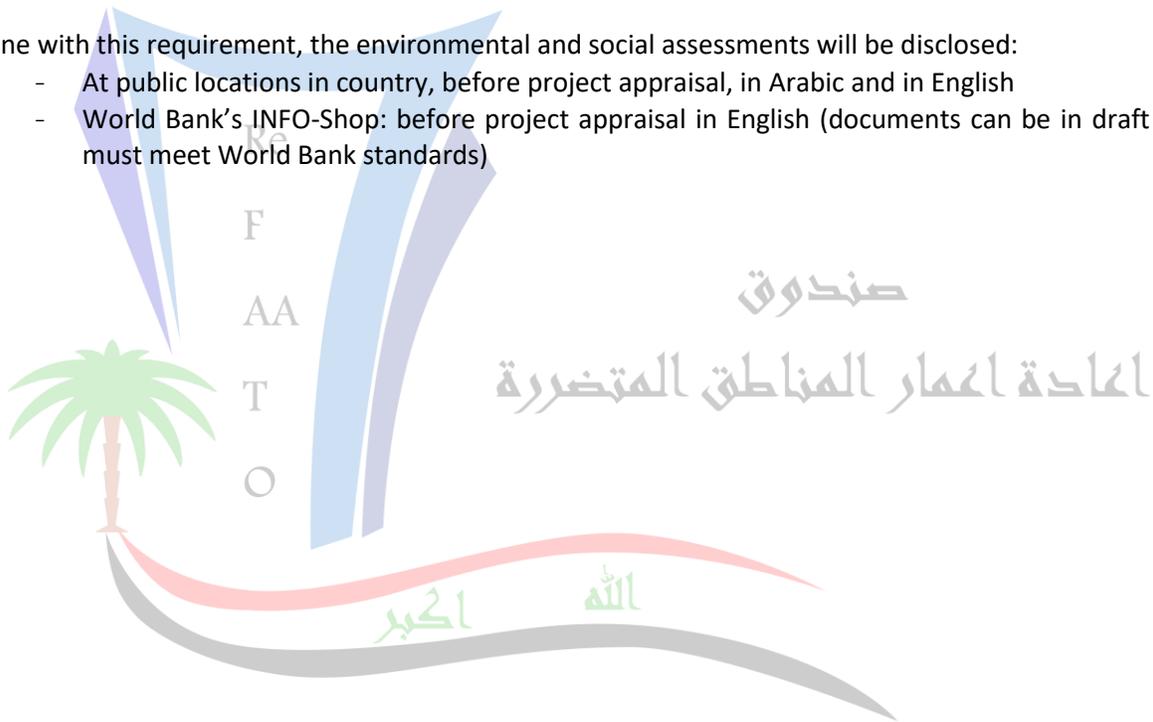
3.3 Public Consultation and Disclosure

The World Bank's mandatory Policy on Disclosure applies to this project. Under this requirement, the ESMF and other instruments related to environmental and social aspects of the project have to be publically consulted and disclosed prior to project appraisal. This process:

- Gives the public and other stakeholders the opportunity to comment on the potential environmental and social impacts of the project,
- Enables the Appraisal Team to enhance the ESMF, i.e., its measures and plans to prevent or mitigate any adverse environmental and social impacts

In line with this requirement, the environmental and social assessments will be disclosed:

- At public locations in country, before project appraisal, in Arabic and in English
- World Bank's INFO-Shop: before project appraisal in English (documents can be in draft but must meet World Bank standards)



⁵ See ifc.org/ehsguidelines

4. BASELINE CONDITIONS

4.1 Overview

The common feature for all project interventions is the strict adherence to pre-existing footprints of buildings, structures and linear infrastructure, which was damaged or destroyed during combat activities. The majority of interventions is expected in urbanized areas, which are generally characterized by the nonexistence of environmentally sensitive areas or natural habitats of importance - being in urbanized areas - which require special attention or protection. In addition, the areas where the project will intervene have been severely damaged due to acts of war activities. Therefore, the environmental conditions in the intervention areas have deteriorated to a large extent. For instance, damaged structures rubble, improper waste disposal and leakages from sewage pipelines as well as oil spills have resulted in soil degradation and pollution of waterways. Air quality has also been affected by the increase in dust levels due to damaged roads. In addition to deterioration in the surface water quality and potentially ground water quality.

The following sections will provide a general background about the environmental and social baseline conditions in the intervention areas and will provide guidance on the key environmental parameters which need further assessment during the preparation of the ESMPs.

4.2 Climate

4.2.1 General

The climate of Iraq is mainly a hot desert climate or a hot semi-arid climate to the northernmost part. Averages high temperatures are generally above 40 °C (104 °F) at low elevations during summer months (June, July and August) while averages low temperatures can drop to below 0 °C (32 °F) during the coldest month of the year during winter. Most of the rainfall occurs from December through April and averages between 100 and 180 millimeters annually. The mountainous region of northern Iraq receives appreciably more precipitation than the central or southern desert region. Roughly 90% of the annual rainfall occurs between November and April, most of it in the winter months from December through March. The remaining six months, particularly the hottest ones of June, July, and August, are extremely dry.

Rainfall in the mountains is more abundant and may reach 1,000 millimeters a year in some places, but the terrain precludes extensive cultivation. Cultivation on non-irrigated land is limited essentially to the mountain valleys, foothills, and steppes, which have 300 millimeters or more of rainfall annually. Even in this zone, however, only one crop a year can be grown, and shortages of rain have often led to crop failures.

Mean minimum temperatures in the winter range from near freezing (just before dawn) in the northern and northeastern foothills and the western desert to 2 to 3 °C (35.6 to 37.4 °F) and 4 to 5 °C (39.2 to 41.0 °F) in the alluvial plains of southern Iraq. They rise to a mean maximum of about 16 °C (60.8 °F) in the western desert and the northeast, and 17 °C (62.6 °F) in the south. In the summer mean minimum temperatures range from about 27 to 31 °C (80.6 to 87.8 °F) and rise to maxima between roughly 41 and 45 °C (105.8 and 113.0 °F). Temperatures sometimes fall below freezing and have fallen as low as -14 °C (6.8 °F) at Ar Rutbah in the western desert.

The summer months are marked by two kinds of wind phenomena. The southern and southeasterly sharqi, a dry, dusty wind with occasional gusts of 80 kilometers per hour, occurs from April to early June and again from late September through November. It may last for a day at the beginning and end of the season but for several days at other times. This wind is often accompanied by violent dust-storms that

may rise to heights of several thousand meters and close airports for brief periods. From mid-June to mid-September the prevailing wind, called the shamal, is from the north and northwest. It is a steady, very dry wind, absent only occasionally during this period.

The mountainous regions to the north and north-east of Iraq, have a hot dry summer and cold winter with heavy rainfall and snow fall, the minimum winter temperatures can be as low as -17 degrees centigrade to average maximum summer temperatures can be high to 47 degrees. The mean annual precipitation is 860-940mm in the northern region and drops to 120-150mm in Baghdad region and less than 100mm in the south western region, variation in humidity is within the range of 30% to 60% with some limited period reading 80%.

The wind regime is characterized by the winds prevailing from the western and north- western direction throughout the year. In spring the south of Iraq often occur south-west winds accompanied by dust storm. Mean annual wind velocity reading 2.1-3.9 meter per second, maximum register at Mosul 26 meter per second, 31 meter per second at Kirkuk and 40 meter per second near Basrah, Evaporation varies from 1300 mm in the northern region to 2450 mm. in the central region of which 400-500mm. occurs in both July and August only.

The climate of the Iraqi plains is sub-tropical, continental. Summer is long, hot and dry. Winter is short with mean monthly temperatures above zero and some year's daily temperature falls two to three degree below zero. Intensive cyclonic activity in the atmosphere provoking rainfall, most precipitations occurs between October and May.

4.2.2 Salah Al-Din Climate

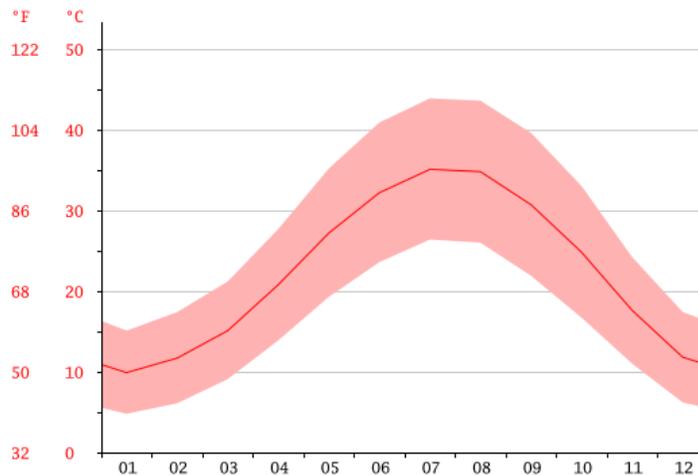
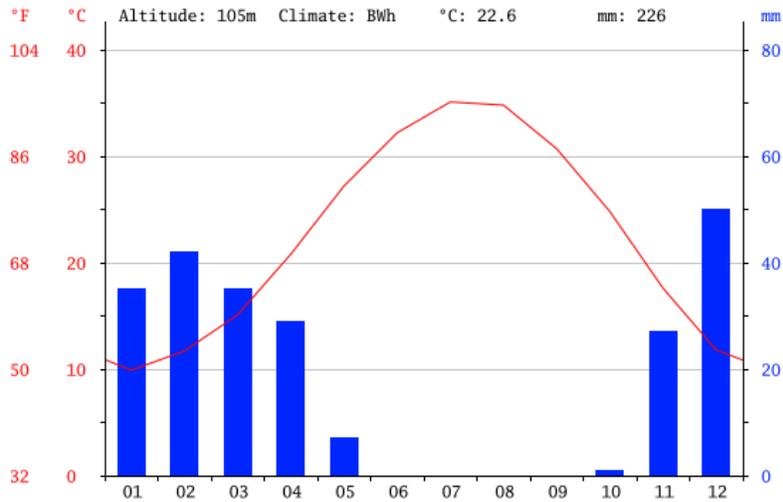
Salah Al-din has three different climates and is dominated by BWh.

Table 9: Salah Al-Din Climate Classifications

Classification	Count	Köppen-Geiger	Examples
Hot desert climates	2121	BWh	<u>Qaryat al Haranah</u> , <u>Qaryat Albu Talhah</u> , <u>Qaryat Albu Talhah</u> , <u>Albu Talhah</u> , <u>Qaryat al Kazakazah</u>
Hot semi-arid climates	358	BSh	<u>Amirli</u> , <u>Garmak</u> , <u>Zindana i Pichuk</u> , <u>Takhta Mina</u> , <u>Chala Duana</u>
Hot-summer Mediterranean climate	1	Csa	<u>Aziz Bag</u>

Qaryat al Haranah

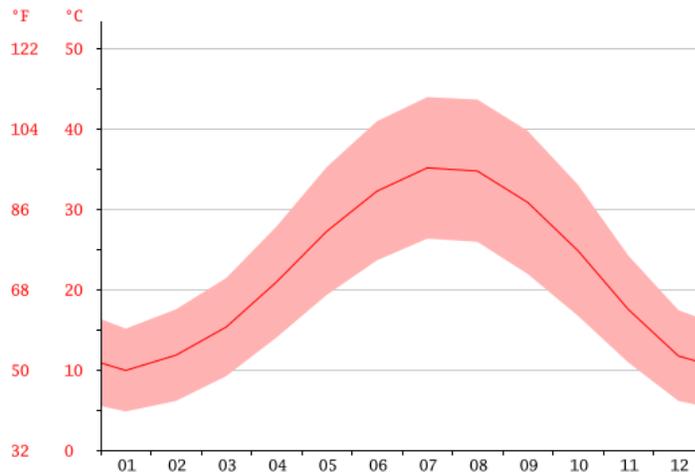
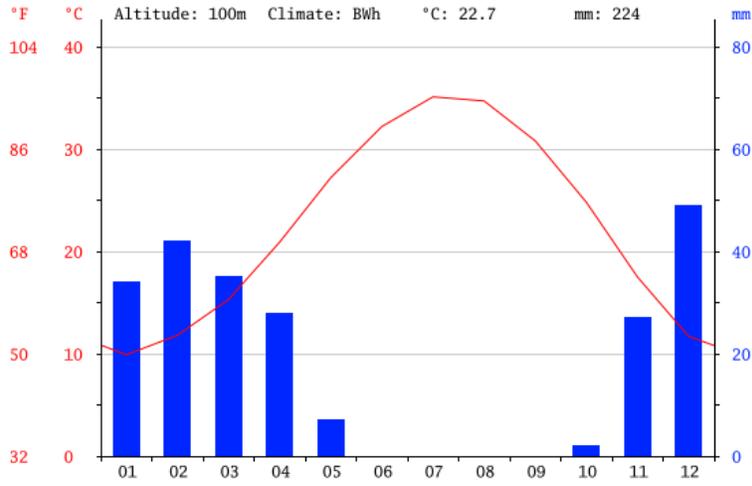
Qaryat al Haranah is considered to have a desert climate. There is virtually no rainfall during the year in Qaryat al Haranah. This location is classified as BWh by Köppen and Geiger. The average temperature in Qaryat al Haranah is 22.6 °C. In a year, the average rainfall is 226 mm.



الأكاديمية

Qaryat Albu Talhah

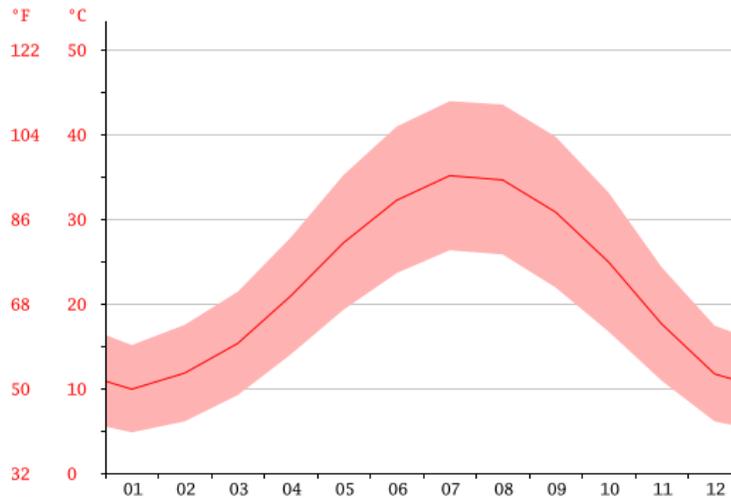
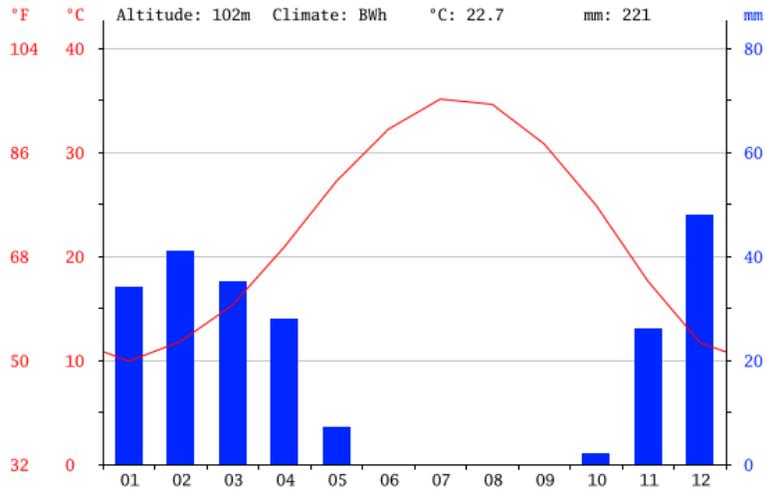
Qaryat Albu Talhah is considered to have a desert climate. There is virtually no rainfall during the year. This location is classified as BWh by Köppen and Geiger. The average temperature in Qaryat Albu Talhah is 22.7 °C. Precipitation here averages 224 mm.



الأكاديمية

Qaryat Albu Talhah

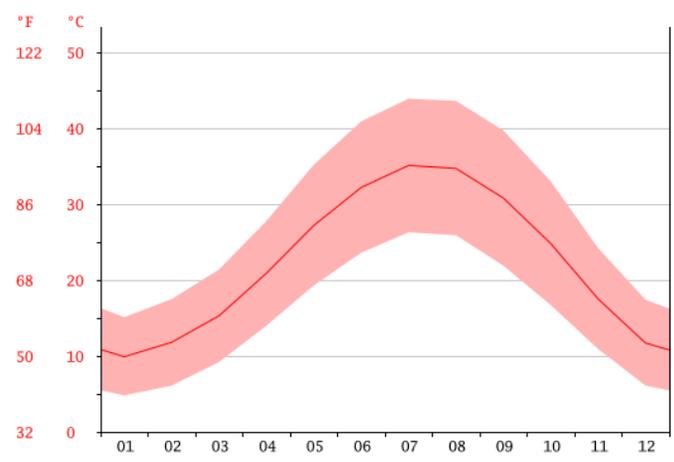
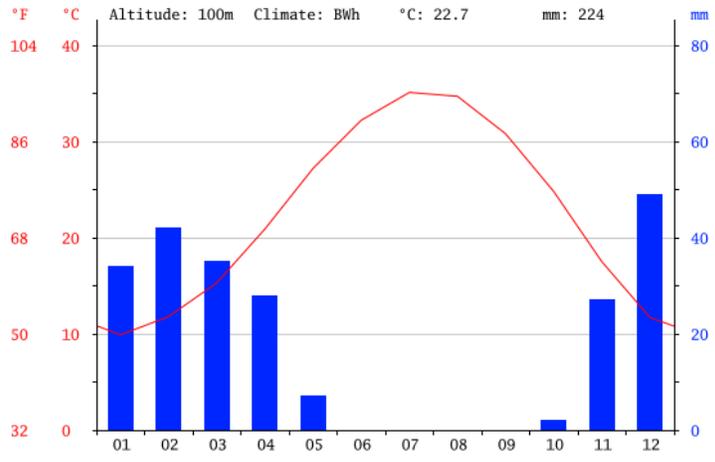
Qaryat Albu Talhah is considered to have a desert climate. During the year, there is virtually no rainfall. According to Köppen and Geiger, this climate is classified as BWh. The average temperature in Qaryat Albu Talhah is 22.7 °C. The rainfall here averages 221 mm.



المحطة

ALBU TALHAH

Albu Talhah has a desert climate. In Albu Talhah, there is virtually no rainfall during the year. This location is classified as BWh by Köppen and Geiger. The average temperature in Albu Talhah is 22.7 °C. The rainfall here averages 224 mm.

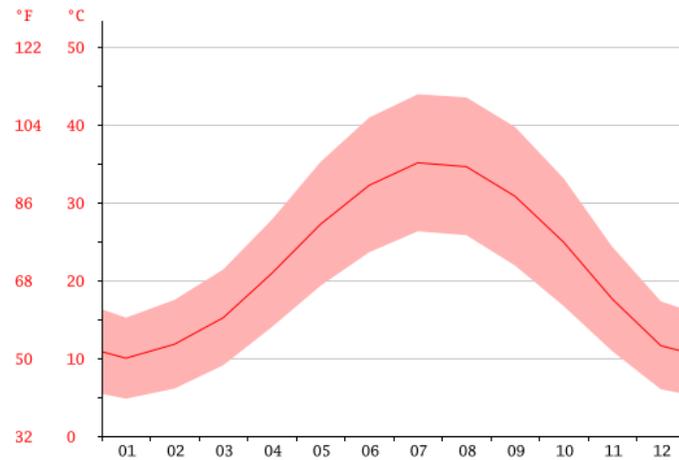
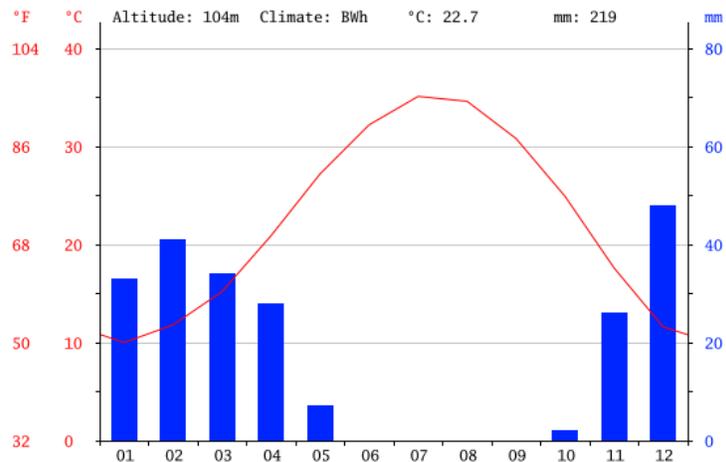


المحطة

أكبر
الصحراء

QARYAT AL KAZAKAZAH

Qaryat al Kazakazah is considered to have a desert climate. There is virtually no rainfall all year long in Qaryat al Kazakazah. This climate is considered to be BWh according to the Köppen-Geiger climate classification. The average temperature in Qaryat al Kazakazah is 22.7 °C. About 219 mm of precipitation falls annually.



المحطة

4.2.3 Diyala Climate

Diyala has three different climates and is dominated by BWh.

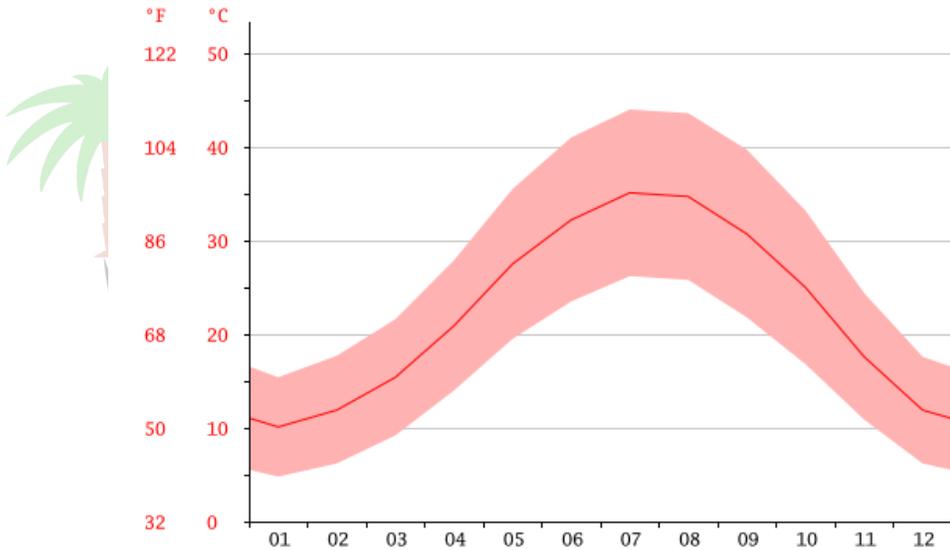
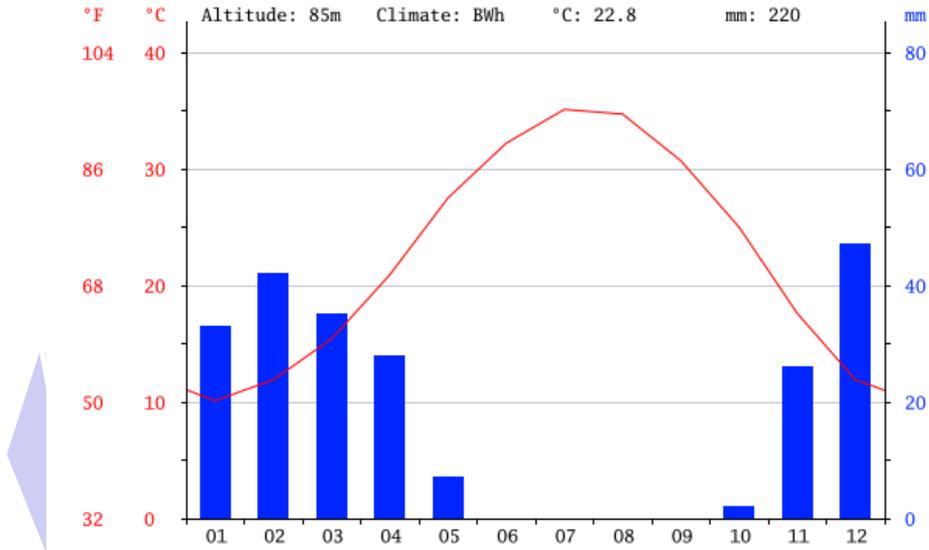
Table 10: Diyala climate Classifications

Classification	Count	Köppen-Geiger	Examples
Hot desert climates	1489	BWh	<u>Husaywat</u> , <u>Mahmud al Khalaf</u> , <u>Badwi al Ali</u> , <u>Abu Bakr</u> , <u>Quraish</u>
Hot semi-arid climates	841	BSh	<u>Chahar Shakh</u> , <u>Chwarshakh</u> , <u>Kani Shirin</u> , <u>Ali Khalah</u> ,
Hot-summer Mediterranean climate	93	Csa	<u>Nawde</u> , <u>Nawday</u> , <u>Saraw</u> , <u>Chuardaran</u> , <u>Darband</u>



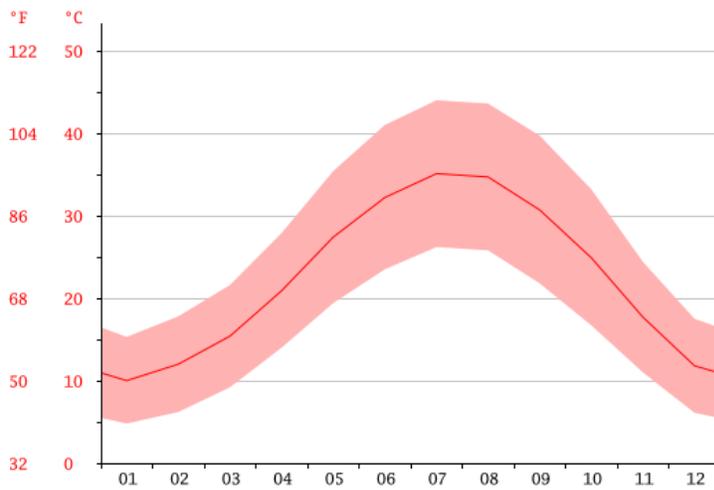
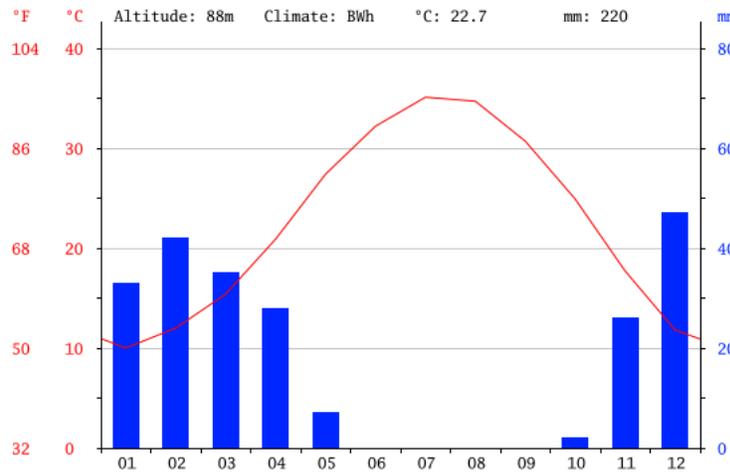
HUSAYWAT

Husaywat's climate is a desert one. In Husaywat, there is virtually no rainfall during the year. This location is classified as BWh by Köppen and Geiger. The average temperature in Husaywat is 22.8 °C. In a year, the average rainfall is 220 mm.



MAHMUD AL KHALAF

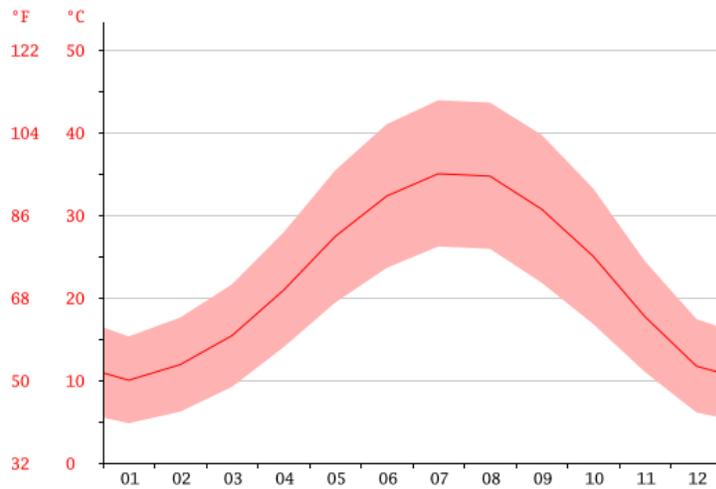
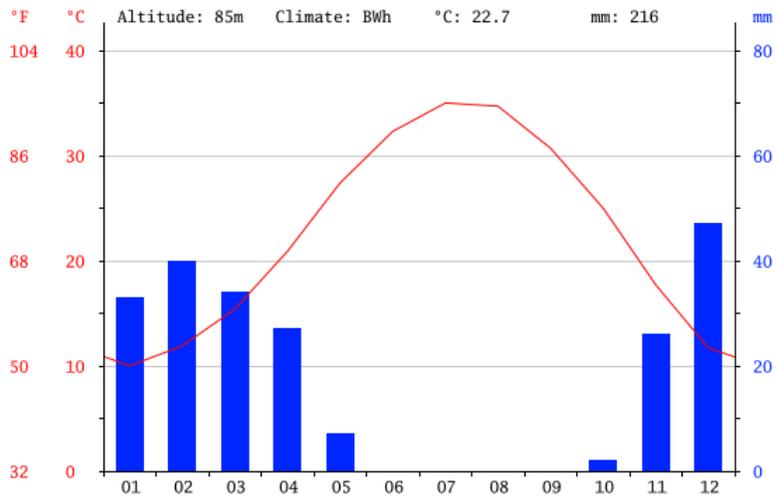
The climate here is "desert." There is virtually no rainfall all year long in Mahmud al Khalaf. The climate here is classified as BWh by the Köppen-Geiger system. The average temperature in Mahmud al Khalaf is 22.7 °C. The rainfall here averages 220 mm.



المادة

BADWI AL ALI

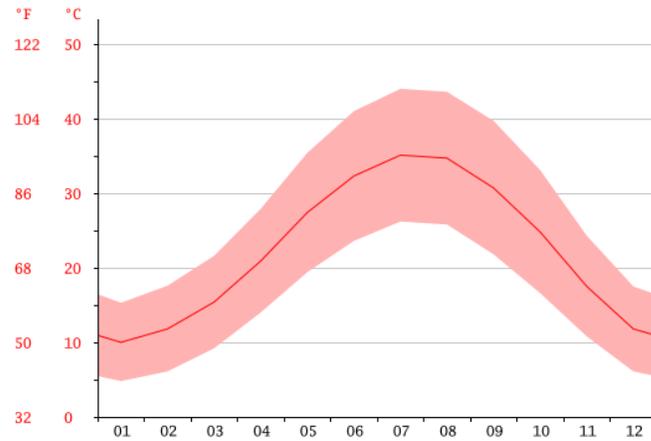
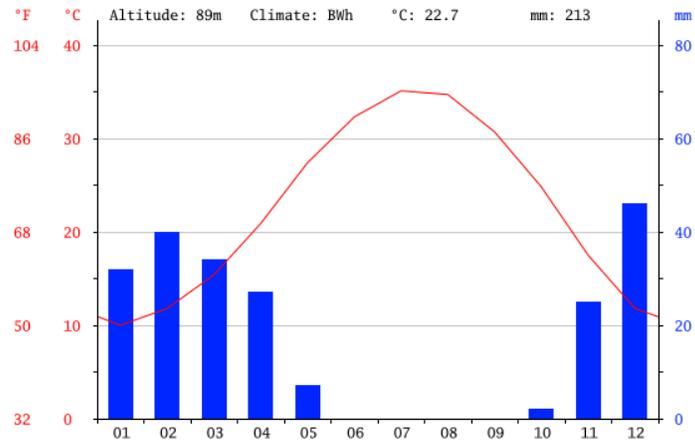
The climate in Badwi al Ali is called a desert climate. There is virtually no rainfall during the year in Badwi al Ali. This location is classified as BWh by Köppen and Geiger. In Badwi al Ali, the average annual temperature is 22.7 °C. In a year, the average rainfall is 216 mm.



المادة

ABU BAKR

The climate in Abu Bakr is called a desert climate. During the year, there is virtually no rainfall in Abu Bakr. This climate is considered to be BWh according to the Köppen-Geiger climate classification. In Abu Bakr, the average annual temperature is 22.7 °C. In a year, the average rainfall is 213 mm.

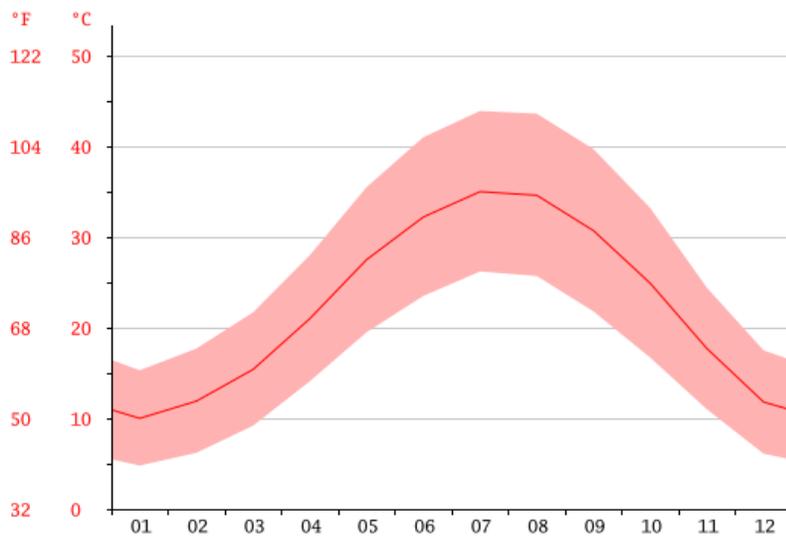
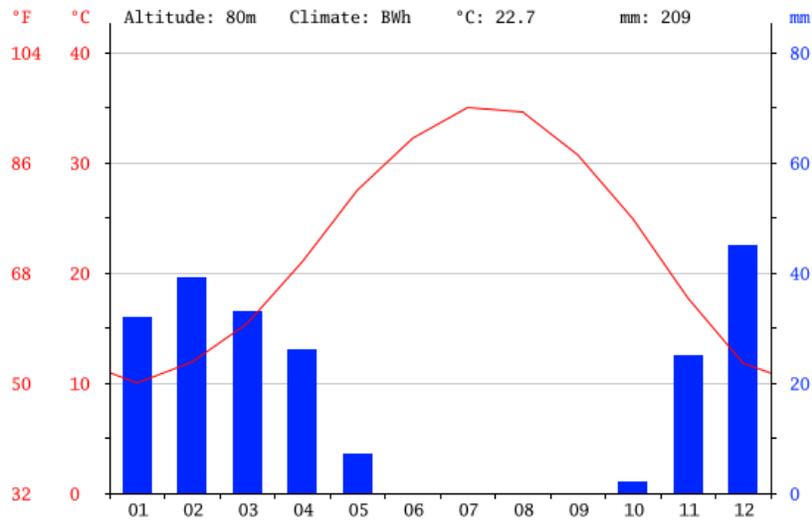


المادة ٤

الله اكبر

QURAISH

The climate in Quraish is called a desert climate. There is virtually no rainfall during the year. This location is classified as BWh by Köppen and Geiger. In Quraish, the average annual temperature is 22.7 °C. The rainfall here averages 209 mm.



الكا

4.3 Geographical features

Iraq can be divided into the following five physiographic zones (FAO/UNESCO/WMO, 1962).

- a) Jazeera Region
- b) Mesopotamian Plain Region
- c) Zagros Mountain Region
- d) Foothills Region
- e) Desert Region

Concerning EODP, the expected interventions and activities will take place between **Jazeera Region** and the lower fold of the **Mesopotamian Plain Region** which is mainly composed of plateau features. The following is a brief description of the two geographic regions where EODP activities will fall in between.

Jazeera Region: includes the remnant of an old inland sea in which mainly gypsum was deposited. It is a steppe and desert plateau. The area is relatively flat broken by some hills and low mountain ridges which are an extension of the mountain ridges to the east. The mountain ridges go in an east west direction; in between there are level to undulating and at places rolling terrain. Gypsum is the main rock but in the east and north limestone and sandstones occur. Large areas have lime and gypsum crusts exposed at the surface. The natural vegetation is of desert type in the south west and steppe in the north east. This region has been traditionally a grazing area but recently some parts in the north have been broken and ploughed to grow wheat and barley.

Mesopotamian Plain Region: is a geological depression filled with river sediments which covers the central and southern parts of Iraq. It is a plain of the Tigris and Euphrates rivers.

4.4 Water Resources

4.4.1 Surface Water Resources

Iraq is traversed by two major rivers, the Tigris and the Euphrates, both of which rise in the eastern mountains of Turkey and enter Iraq along its northwestern borders. Before their confluence just north of Basra, the Euphrates flows for about 1,000 km and the Tigris for some 1,300 km within Iraqi territory. Downstream from this point, the combined rivers form the tidal Shatt al-Arab waterway, which flows 190 km into the Gulf. The southern Shatt al-Arab forms the border between Iraq and Iran.

The Euphrates basin (579,314 km²) embraces parts of Iraq (roughly 49% of the basin), Turkey (21%), Syria (17%) and Saudi Arabia (13%).⁴ The Euphrates River does not receive water from permanent tributaries within Iraqi territory and is fed only by seasonal runoff from wadis.

The Tigris basin (371,562 km²) covers parts of the territories of Iran (47.2% of the basin), Iraq (38%), Turkey (14%) and Syria (0.3%). Within Iraq, the Tigris River receives water from four main tributaries, the Khabour, Great Zab, Little Zab and Diyala, which rise in the mountains of eastern Turkey and northwestern Iran and flow in a southwesterly direction until they meet the Tigris. A seasonal river, Al Authaim, rising in the highlands of northern Iraq, also flows into the Tigris, and is the only significant tributary entirely within Iraq.

The great alluvial plains of the Tigris and Euphrates Rivers comprise more than a quarter of Iraq's surface area. Topographically, the region is extremely flat, with a fall of only 4 cm/km over the lower 300 km of the Euphrates and 8 cm/km along the Tigris. Under natural conditions, the region was rich in wetlands and subject to annual flooding of up to 3m. In recent years, this seasonal flooding has occurred on a much smaller scale because of dams constructed upstream, particularly on the Euphrates in Turkey and Syria, and due to large scale drainage works in Iraq itself.

The major river flow annual cycle can be divided into three periods:

- a- spring flood period, February to June
- b- summer low flow period, July to October
- c- autumn - winter rainfall period, November to February

During spring flood period, Tigris River conveys about 75 % of the annual flow, during low flood period 10 % and 15 % during autumn period. The volume and duration of floods on the Tigris depends greatly on flood flow of the tributaries. The spring flood of Diyala tributary occur before that on the Lesser Zab, while this event precedes the spring flood on Greater Zab, The Euphrates carries 70% of annual flow during spring period, 10% in the summer period, and 20% during autumn period.

The Euphrates peak flows usually occur in the beginning of May, whereas that of the Tigris occurs in March or April. The surface water river flow in Iraq territory is made up of the runoff flowing partly from outside of the Iraqi territory and partly within the Iraqi border. The Tigris and Euphrates basins encompasses mainly parts of Turkey, Syria, Iraq and, to a lesser degree, Iran and Saudi Arabia. The recorded average yearly inflow (Crossing Iraqi Borders) is 84.2 km³. This includes 35.9 km³ from the Tigris basin, 30.0 km³ from Euphrates basin, 18.3 km³ from Shatt Al Arab, in addition to 26.5 km³ which is generated within Iraqi territory. Total water resources of Iraq are therefore 110.7 km³.

Water quality in the Euphrates is affected by return flows from irrigation projects in Turkey and Syria, and is expected worsen as irrigated land is added. Within Iraq, much of the return flow is now drained into the Persian Gulf through the Main Outfall Drain, but considerable saline return flow enters the river system. On the Tigris River, the quality is further degraded with flood flows diverted into off-stream storage in the highly saline Tharthar Lake, and later returned to the river system carrying salts washed from the lake.

4.4.2 Groundwater

Groundwater with acceptably low salinity levels (below 1.0 mg/l) has been found in two regions of Iraq. The aquifer in the foothills of the northeastern mountains has an estimated sustainable discharge of between 10 and 40 m³/s, at depths of 5 to 50m, while those on the right bank of the Euphrates River are found at depths up to 300m, and have an estimated discharge of 13 m³/s. Elsewhere, groundwater salinity always exceeds the 1.0 mg/l threshold.

There is concern that groundwater may be vulnerable to spillages of oil and oil-contaminated water, and possibly to contamination by hazardous substances released into the environment as a consequence of military conflict. The National Groundwater Centre, which is a part of the Commission for Integrated Water Resources Management, is responsible for quantitative and qualitative groundwater resources assessment and for developing the hydrogeological database.

According to the hydrological map as shown in the figure below, there are no specific aquifer in the area, and according to the water table contour lines in the map the nearest water table is more than 100m away from the surface. Therefore, the interaction between the project activities and the water aquifer is not expected.

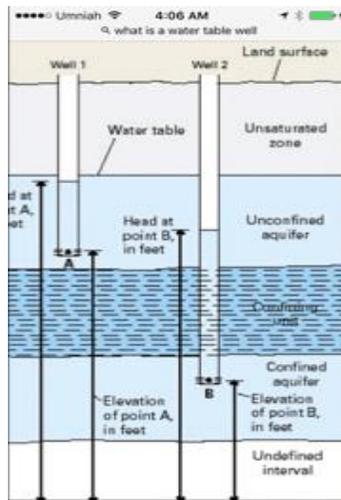


Figure 6: Hydrogeological Map in the Regions where EOPD will operate

4.5 Biodiversity

4.5.1 Ecosystem in Iraq

The combination of rain shortage and extreme heat makes much of Iraq a desert. Because of very high rates of evaporation, soil and plants rapidly lose the little moisture obtained from the rain, and vegetation could not survive without extensive irrigation. Some areas, however, although arid, do have natural vegetation in contrast to the desert. For example, in the Zagros Mountains in northeastern Iraq there is permanent vegetation, such as oak trees. Date palms are found in the south.

The majority of sites important for biodiversity conservation have no protected area status, although many have been recommended for designation. For example, Bird-Life International has recognized a total of 42 sites as 'Important Bird Areas' (IBAs). These cover a combined area of c.35, 000 km², or about 8% of the country's surface area.

The UNEP-WCMC Species Database lists 73 terrestrial mammal species (plus a further three species known to be extinct). 46 of these, including three bat species, Eurasian otter (*Lutra lutra*) and smooth-coated otter are listed as 'vulnerable' in the 2002 IUCN Red List.

A large number of reptiles occur in Iraq, but information on their distribution and conservation status is limited. The 2002 IUCN Red List ranks the Euphrates soft-shelled turtle (*Rafetus euphraticus*) as 'endangered', and common tortoise (*Testudo graeca*) as 'vulnerable'.

Over 400 species of birds have been recorded in the northern Gulf Region (comprising Kuwait, Iraq, eastern Saudi Arabia and western Iran). Among the species occurring in Iraq, white-headed duck (*Oxyura leucocephala*) which is listed as endangered in the 2002 IUCN Red List, while Socotra cormorant (*Phalacrocorax nigrogularis*), marbled teal (*Marmaronetta angustirostris*), greater spotted eagle (*Aquila clanga*), imperial eagle (*Aquila heliaca*), lesser kestrel (*Falco naumanni*), corncrake (*Crex crex*), and sociable lapwing (*Vanellus gregarius*) are listed as vulnerable.

Nine more species are listed as 'conservation dependent' or 'near threatened'. The region is especially important as part of the intercontinental flyways used by huge numbers of birds moving between Africa and Eurasia. It has been estimated that some two to three billion migrant birds move south across Arabia each autumn.

4.5.2 Mesopotamian Marshlands

The Mesopotamian marshlands are unique ecological features at the confluence of the Tigris and Euphrates. They fall into three distinct areas: Hawizeh Marsh in the north, fed by the Tigris and Karkheh rivers, the Central (Qurnah) Marsh, which lies between the Tigris and the Euphrates, and the Hammar Marsh to the south, traditionally fed by the Euphrates. These three marshes were once contiguous and covered 20,000 km². At their full extent, they were able to absorb inflows of over 16 BCM annually. The marshes were formed by flood flows from the Tigris and Euphrates, and were also fed by the Karkheh river from Iran; water spilled out from these rivers forming inter-connected lakes, mud flats and wetlands. Further downstream, the Euphrates, Tigris and Karun rivers merge to form the Shatt al Arab river which drains into the Persian Gulf. As tides averaging 3m can run up the Shatt al Arab into the Euphrates and Tigris, and then into the marsh and wetland systems, the water quality of the marshes varies in brackishness.

The marshes are important economically and ecologically to all peoples of this area and are of global environmental significance. For over 5000 years the *madan*, the Marsh Arabs, made these wetlands their home, building an economy and lifestyle centered around the ecology of the area. The wetlands ecosystem is rich in bio-diversity, supporting giant reeds, wetland rice cultivation and many species of plants, fish and animals.

Most of the original riverine forest which once lined the banks of the Euphrates and Tigris rivers has been replaced by orchards and other cultivated land, although some significant stands of forest still exist, especially on small islands. The surviving patches of forest provide important breeding habitat for a wide variety of birds, notably regional specialties such as the grey hypocolius (*Hypocolius ampelinus*), Iraq babbler (*Turdoides altirostris*) and Dead Sea sparrow (*Passer moabiticus*), and are used as staging areas by large numbers of migratory passerines. Other important natural wetlands in central Iraq include two large brackish to saline lakes, Shari Lake to the east of the Tigris north of Samarra, and Haur Al Shubaicha on the plains to the east of the Tigris southeast of Baghdad.

4.5.3 Biodiversity in EODP Intervention Areas

The ecosystem conditions in the areas where EODP activities will take place in are considered near the "Plateau Area" and is far from the marshlands (which is located in the east-southern part of Iraq) and far from the desert areas (located in the far west of the country). In the EODP intervention areas (plateau), the fauna and flora species are not classified as rare or endangered. These species are common and abandoned in many locations. No significant terrestrial habitats or ecosystems are present in the EODP intervention areas. The only important habitat is mainly the aquatic environment of the rivers which cross through the intervention areas.

4.6 Economic Activities and Land-use

4.6.1 Oil industry

Iraq's economy is dominated by the oil sector, which has typically provided 95% of foreign exchange earnings. It was the first country in the Middle East region to strike oil and, at peak production, prior to the 1990 invasion of Kuwait, had an output of 3 million barrels of oil per day. Iraq has the second largest proven oil reserves in the world (some 112 billion barrels), next only to Saudi Arabia, with an estimated 220 billion barrels of potential reserves. Production is concentrated in two main areas, namely northern Iraq in and around Kirkuk, and, in the south, around Basra.

4.6.2 Natural gas

Iraq has 3.114 trillion m³ of proven natural gas reserves, and approximately 4.25 trillion m³ in probable reserves. About 70% of Iraq's natural gas reserves are 'associated' (meaning that the gas occurs with oil reserves). In 2001, Iraq produced 2.75 billion m³ of natural gas, down drastically from peak output levels of 19.82 billion m³ in 1979. Iraq has had a long-term strategy of increasing its domestic consumption of natural gas to free as much oil as possible for export.

4.6.3 Agriculture

The agricultural sector contributes to 35% of Iraq's non-oil GDP and up to about 30% of employment for the rural poor. The development of hydraulic infrastructure, consisting of large dams, reservoirs and distribution networks for water supply and irrigation was central to economic planning. Iraq developed more than 3 million hectares of irrigated-agricultural lands. Traditionally the main crops were wheat, barley, maize, beseem and vegetables. Crop yields for most crops are usually low when compared with other countries and rural poverty is high. Unsustainable water management practices, including construction of large dams and irrigation schemes, have resulted in deterioration of the quality of soil and land productivity.

The desert plateau provides the country's main rangeland grazing, as well as limited dryland cultivation. The uplands and mountains yield acorns, almonds, walnuts and pine nuts, with additional grazing and dryland cultivation. Irrigated agriculture occurs mainly in the alluvial plain. It is estimated that about 11.5 million ha, or approximately one quarter of the country's total area, are cultivable. However, due to land degradation, the practice of leaving some land uncultivated, and the recent unstable political situation of recent years, it is estimated that only 3 to 5 million ha are currently cultivated annually. The principal crops include dates, wheat, barley, maize, rice and cotton, as well as a wide variety of fruit and vegetables.

4.7.3.1 Irrigation

Water use in agriculture is currently estimated at about 44 BCM per year constituting 90 percent of total abstractions. With the exception of about 1 BCM groundwater, the irrigation water is abstracted by diversion from rivers and distributed through an extensive system of barrages, irrigation canals, and on-farm channels and approximately half of the diverted water is lost in conveyance. In addition, on-farm water use efficiency is also low.

It was estimated in 1990 that over 5.5 million ha of Iraqi territory are potentially suitable for irrigation, with 63% of this land occurring in the Tigris basin, 35% in the Euphrates basin, and 2% along the Shatt al-Arab. However, irrigation development depends to a large extent on the volume of water released by the upstream countries. The risk of elevated soil salinity and waterlogging as a consequence of poor irrigation practices has long been a priority concern in the country, and was already recorded as a cause of crop yield reductions some 3,800 years ago. Recent estimates showed that 4% of irrigated areas were severely saline, 50% moderately saline and 20% slightly saline (i.e. a total of 74% of irrigated land suffered from some degree of elevated salinity). Irrigation of date palms with highly saline water has been practiced since 1977, while the use of brackish groundwater for tomato irrigation has also been reported in the south of the country.

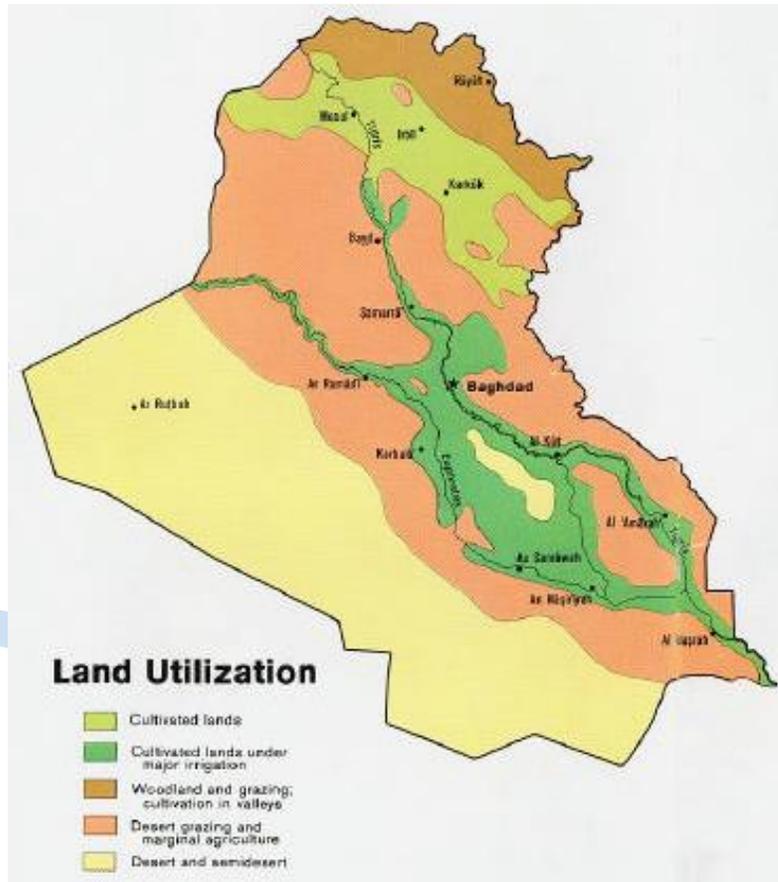
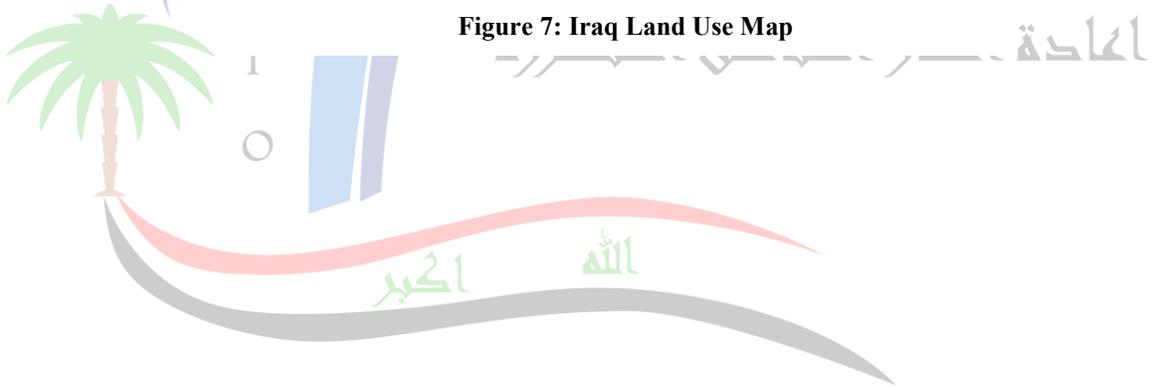


Figure 7: Iraq Land Use Map



5. ASSESSMENT OF ENVIRONMENTAL AND SOCIAL IMPACTS AND IMPACT MITIGATION FRAMEWORK

In this section, guidance for identification of potential environmental and social impacts of the project components will be presented in addition to proposing general mitigation measures. At later stages and during the preparation of site specific ESMPs/ESIAs, environmental and social impacts should be carefully examined and detailed. Appropriate mitigation measures should also be discussed in relation to each subproject, baseline conditions and capacity of the implementing agency. However, it is important at the beginning to note that some subprojects will have to be excluded from financing under EODP due to their highly anticipated significant negative environmental and/or social impacts.

5.1 Ineligible Subprojects

Some of the activities or subprojects which have significant environmental and/or social impacts have been excluded from implementation under EODP. In all ESMPs or ESIAs which will be prepared prior to construction, the following exclusion list of criteria should be referred to in order to ensure that the proposed subproject is eligible for support under EODP.

Table 11: Criteria for Ineligible Subprojects

<ul style="list-style-type: none"> • General Characteristics
4. Concerning significant conversion or degradation of critical natural habitats.
5. Damages cultural property, including but not limited to, any activities that affect the following sites: <ul style="list-style-type: none"> • Archaeological and historical sites; and • Religious monuments, structures and cemeteries.
6. Requiring pesticides that fall in WHO classes IA, IB, or II.
<ul style="list-style-type: none"> • Sanitation • New wastewater treatment plants to serve 10,000 or more households.
<ul style="list-style-type: none"> • Solid Waste • New disposal site or significant expansion of an existing disposal site.
<ul style="list-style-type: none"> • Irrigation • New irrigation and drainage schemes.
<ul style="list-style-type: none"> • Dams • Construction of dams more than 5 meters high. Rehabilitation of dams more than 15 meters high.
<ul style="list-style-type: none"> • Power • New power generating capacity of more than 10 MW.
<ul style="list-style-type: none"> • Income Generating Activities • Activities involving the use of fuelwood, including trees and bush. • Activities involving the use of hazardous substances.

Note on Unexploded Ordnance (UXO):

An important precondition to infrastructure repair and reconstruction will be the removal of debris and rubble, as well as structures which have been damaged beyond economic repair in order to clear space for subsequent reconstruction works. Due to the risks of explosive war remnants (EWR) concealed in and under the rubble (both unexploded ordnance - UXO, and deliberately planted explosives) an extensive explosive ordnance disposal (EOD) would have to be an integral part of rubble removal. The GoI with assistance from the European Union, and the rest of the international community including specialized agencies such as the United Nations Mine Action Service (UNMAS) will ensure that improvised explosive devices (IEDs) and UXOs are properly detected and removed prior to works activities begin especially

where rubble is accumulated. Any rubble removal, repairs or reconstruction financed by the Bank will only apply to those areas that have been declared safe of EWRs. Confirmation that sub-Project locations have been cleared of EWR, IEDs and UXOs will be sought from the relevant authorities (the Ministries of Interior and Defense). No sub-project activities will be undertaken without this assurance. In a similar manner as the completion of the required safeguards documents, the declaration of absence of ERW will be a criterion to allow any Bank-financed works to proceed.

5.2 Preliminary Assessment of Environmental Impacts of EODP

In general following is the list of broad positive and negative impacts that are very likely to arise from the sub-projects funded under the EOPD.

5.2.1 Overall positive impacts of the project

The proposed project and its subcomponents are expected to have major positive environmental and social benefits which will contribute to the improvement of the living conditions of the Iraqi people in addition to improvement in the overall environmental status in the liberated lands. The following is a list of key economic, environmental and social benefits which will result from EODP activities:

- Economic and social development of the liberated lands;
- Improved environmental conditions due to management of solid and liquid wastes;
- Reduced air pollution and traffic congestions
- Improved accessibility of people, goods and services;
- Improved public health due to provision of clean drinking water, reliable sanitation systems and municipal waste management;
- Improved safety conditions due to provision of reliable electricity service;
- Job creation and local economic development

5.2.2 Overall positive impacts of the project

The preliminary assessment of impacts that can be linked to the EODP can be generalized under (i) typical construction/rehabilitation impacts which can be mitigated with good construction practices and (ii) specific impacts that can arise due to engineering interventions proposed for some sub-projects and hence require more detailed analysis at a later stage.

In general, the following is the list of broad negative impacts that are very likely to arise from the sub-projects funded by the EODP. These impacts though occurring in most of the sub-projects will vary in extent and significance **hence individual assessment for each subproject is of utmost importance.** However for ease of presentation and reference typical construction impacts related to the project have been discussed under the following thematic categories.

Table 12: Preliminary Identification of Potential Impacts during Construction

EODP Component(s)	Activities	Receptor/EHS Aspects	Related Potential Impacts
	General construction activities	Air	<ul style="list-style-type: none"> • Emission of pollutants from engines of construction machinery and equipment. • Dust “lifting” due to earthwork and movement of construction trucks and equipment on unpaved roads.
		Noise	<ul style="list-style-type: none"> • Noise emission from engines of construction machinery and equipment

EODP Component(s)	Activities	Receptor/EHS Aspects	Related Potential Impacts
1,2, 3		Soil, subsoil and land	<ul style="list-style-type: none"> • Land occupation due to the installations in the working areas • Soil/subsoil contamination due to accidental spills and leaks from construction equipment • Improper discharge of domestic sewage from construction camps/offices. • Improper disposal of wastes from construction camps/offices.
		Solid and hazardous waste	<ul style="list-style-type: none"> • Production of construction wastes/demolition debris • Solid wastes from construction camps/offices • Improper disposal of fuel barrels, removed asphalt, paint containers, asbestos materials....etc.
		Water resources	<ul style="list-style-type: none"> • Improper disposal of debris or construction wastes on river banks • Improper discharge of domestic sewage from construction camps/offices into surface or subsurface water bodies • Water consumption for construction works
		Biodiversity and sensitive habitats	<ul style="list-style-type: none"> • Removal of trees or green cover for rehabilitation or construction purposes may result in loss of habitats • Pollution of rivers or waterways may negatively affect the aquatic ecosystem,
		Cultural heritage	<ul style="list-style-type: none"> • During rehabilitation, sites or structures of cultural significance may be negatively affected from construction works.
		Socio-economic environment	<ul style="list-style-type: none"> • Temporary nuisance and inconvenience as a result of the construction activities including noise, emissions. • Influx of workers and the potential implications on communities' privacy. • Employment, working conditions and safety of workers at the construction site • Disturbance of public health and quietness due to construction/rehabilitation activities; • Land acquisition or obstructing access to amenities due to construction/rehabilitation activities.
		Traffic Congestion and Detours	<ul style="list-style-type: none"> • Traffic impacts due road blockages for construction purposes and detours. This may be associated with traffic congestions, increasing commuting time and creating inconvenience to roads users.
		Health and Safety	<ul style="list-style-type: none"> • Falling from moderate heights; • Vehicle/pedestrian accidents; • Falling into trenches; • Being buried in tunnels/excavations; • Breathing dust and other air pollutants; • Back aches caused by handling heavy material;

EODP Component(s)	Activities	Receptor/EHS Aspects	Related Potential Impacts
			<ul style="list-style-type: none"> • Suffering hearing loss from noise

Table 13: Preliminary Identification of Potential Impacts during Operation

EODP Component(s)	Receptor/EHS Aspects	Related Potential Impacts
1, 2 & 3	Air	<ul style="list-style-type: none"> • Emission of pollutants due to increased traffic and mobility on the rehabilitated roads • Emissions from landfill operations • Increased emissions due to increase in electricity consumption
3	Noise	<ul style="list-style-type: none"> • Increase in noise emission due to increased traffic and mobility on the rehabilitated roads
2	Soil, subsoil and land	<ul style="list-style-type: none"> • Improper management of landfills may result in contamination of soil and land • Improper disposal of sewage • Leakages in sewage networks
2 & 4	Solid and hazardous waste	<ul style="list-style-type: none"> • Improper management of waste disposal sites and untreated sludge • Disposal of empty chemical containers used in water/wastewater treatment • Medical wastes from mobile clinics and hospitals
2	Water resources	<ul style="list-style-type: none"> • Increase in fresh water consumption • Leakages in water network
2	Biodiversity and sensitive habitats	<ul style="list-style-type: none"> • Improper disposal of sewage and wastes
1, 2 & 3	Cultural heritage	<ul style="list-style-type: none"> • Not applicable
1, 2 & 3	Socio-economic	<ul style="list-style-type: none"> • Positive Social amenities and social benefits

5.3 Methodology for assessment of impact significance

The significance of each potential impact will depend on the project activities and the potential impacts on the environmental receptor. The impact evaluation should be conducted using two sets of criteria, described respectively as basic and supplementary. The basic criteria for defining an impact include:

- **Magnitude:** describes the quantity of the resource (or receptor) potentially affected by the activity.
- **Spatial extent:** the geographical area over which the impact is experienced.
- **Duration:** the length of time over which the impact will be experienced. An impact may be present only while an activity is active, or it could persist long after the activity has ceased, in which case the duration may be regarded as the time the VR needs to recover from the effect.

Each potential impact should be evaluated by applying descriptors to each of the above criteria, based on qualitative or, to the extent possible, quantitative evaluation, as follows.

The magnitude of impact is allocated one of the following categories:

- Very Low (1) A very small proportion of the receptor is affected.
- Low (2) A small proportion of the receptor is affected.
- Moderate (3) A moderate proportion of the receptor is affected.
- High (4) A large proportion of the receptor is affected.
- Very High (5) A very large proportion or all of the receptor is affected.

The spatial extent of impact is allocated one of the following categories:

- Nil (0) no effect.
- Very Low (1) local scale impact in the immediate area of the activity.
- Low (2) local impact in the study area.
- Moderate (3) regional scale impact.
- High (4) national scale impact.
- Very High (5) global scale impact.

Duration of impact is described by one of the following categories:

- Nil (0) no effect.
- Very Low (1) less than one year.
- Low (2) one to five years.
- Moderate (3) five to ten years.
- High (4) greater than ten years.
- Very High (5) irreversible.

The relative importance of each criterion, as illustrated in Table 14, will be evaluated on a scale from zero to five, and expressed as follows: Nil (N), Very Low (VL), Low (L), Moderate (M), High (H), and Very High (VH). The highest figure is assigned to an impact when there is uncertainty about the criteria, so as to reduce the chance of underestimating an impact thereby minimising risk.

Table 14: Basic Impact Index

BASIC IMPACT INDEX	N	VL	L	M	H	VH
--------------------	---	----	---	---	---	----

Magnitude	0	1	2	3	4	5
Spatial Extent	0	1	2	3	4	5
Duration	0	1	2	3	4	5

The Basic Impact index is obtained by the weighted average of these three values, to obtain a whole number between 0 and 5. The magnitude's weight is twice that for spatial extent and duration.

The final impact significance is the result of the combination of the Basic Impact Index and the Receptor Categorisation, as shown in Table 15: where impact significance may result in one of the following classes: Insignificant (IN), Minor (MI), Moderate (MO) or Major (MA).

Table 15: Impact Significance

Receptor Categorisation	Basic Impact Index					
	N	VL	L	M	H	VH
L	IN	IN	IN	MI	MO	MA
M	IN	IN	MI	MO	MA	MA
H	IN	MI	MO	MA	MA	MA

Those impacts rated as minor, moderate or major are considered to require mitigation measures in order to eliminate the impact or, where this is not possible, to reduce their significance ranking to minor or insignificant.

Environmental impacts are caused by environmental aspects and can have a direct impact on the environment, contribute indirectly to a larger environmental change, or be cumulative.

6. ENVIRONMENTAL MANAGEMENT & MONITORING FRAMEWORK

6.1 Objectives of the ESMMF

The objectives of this Environmental and Social Management and Monitoring Framework, is to outline a mechanism for analyzing and mitigating potential negative impacts and for monitoring the application and performance of mitigation measures. The ESMMF identifies roles and responsibilities for different stakeholders for implementation and monitoring of mitigations.

This section also presents an assessment of the institutional capacity for implementing this ESMMF, along with recommendations for improving capacity and resources.

As explained previously, the proposed project is to be implemented in 2 governorates. Institutional and technical capacities, as well as physical and social environments may vary between them. Identical mitigation measures for all governorates may not provide the flexibility required for dealing effectively with some of the negative impacts which require taking the local context into account. Wherever applicable, the ESMMF is designed to accommodate alternative context-specific mitigations.

6.2 General Mitigation Measures

The following are general mitigation measures that need to be detailed according to each subproject and in relation to the site specific baseline conditions.

6.2.1 During Construction

With the purpose to reduce the impacts related to emissions of gaseous pollutants from construction equipment, the following mitigation measures and good practice are to be taken into account:

Air

- Employ construction machines with low emissions to reduce pollution, arranging sources of emission far from people's houses and public places
- All construction machines and vehicles should meet the standard on emissions and have passed the emission test
- No burning of wastes on site
- Limit traffic congestion through proper planning and operating of traffic diversions
- Do not let machines idle when not necessary

Concerning dust control methods and measures, the following actions are to be taken into account to reduce the generation of dust:

- Regular watering of roads for dust suppression in urban, residential areas and in areas with sensitive receptors
- Covering of excavated soil temporary stored on site
- Daily cleaning of tires of vehicles
- Covering up any vehicle transporting materials and spoil to and from construction sites
- Daily cleaning of streets and pathways in vicinity of construction site that are affected by soil and dust
- Imposing speed controls for construction vehicles

Noise and vibration

Mitigation measures foreseen to minimize the impact related to the noise emission during the bus corridor construction phase are:

- Apply appropriate schedule to avoid any works that may cause noise and vibration during 10 pm – 6 am especially near inhabited areas. Any nighttime activities should be done using noise reducing means or low-noise technologies
- Use vehicles and equipment that meet national standards for noise and vibration.
- Publishing and registering working time of construction machines with local authorities and strictly compliance therewith.
- Restricting use of noisy machines near sensitive receptors such as schools and hospitals, use noise-reducing means for construction machines, if required.

Soil, subsoil and land

- Earthwork should be carried out during dry weather periods;
- Stockpiling of earth should be done a safe distance away from waterways;
- Other construction materials containing small/ fine particles should be stored in a place not subjected to flooding;
- If necessary, silt/sedimentation traps should be used to prevent soil particles from getting into drains and canals.

Solid and hazardous waste

- Work sites should be cleared of residual solid waste and wastewater before work commences;
- Temporary storage of solid wastes shall be done with appropriate containment to avoid spreading of waste, odor and avoid dust;
- Temporary storage of solid waste should be done to avoid interfering with traffic obstacles and aesthetics;
- Sites for collecting solid waste in each sub-project area should be determined prior to commencement of construction. These sites must be suitable with the transport, in order not to obstruct the activities of human beings and the waste must be transported during the day;
- Construction wastes should be removed as much as possible within 24 hours from the site to ensure public safety in urban areas;
- All waste should be collected and disposed in compliance with the local and national laws, in sites identified by the respective local authorities;
- Excavated soil, if suitable, should be used for leveling and backfilling;
- No solid waste should be burned at the site;
- Clean the construction site of solid wastes, wastewater etc. before its closing

Domestic waste

- Construction camps should be sited appropriately with consent from the necessary public authority or the implementing agency,
- Labor camps shall be provided with adequate and appropriate facilities for disposal of sewage and solid waste
- Domestic solid waste shall be collected and disposed of daily at the local authorities designated site or given for collection by the local authorities
- Discharge and disposal domestic waste from worker camps into water sources should be strictly avoided
- Burying and burning domestic waste in the project site should also be strictly avoided
- Avoid construction workers staying overnight in the construction sites

Hazardous wastes

- Wastes identified as “hazardous” will need special handling, transportation and disposal. For contaminated sites, a hazardous waste disposal plan will need to be prepared.
- The contractor should be trained and made aware of the requirements prior to commencement of the sub-project. Special guidelines for handling of contaminated soils or hazardous wastes should be prepared and published by the PMU.
- Hazardous wastes and contaminated soils should not be dumped on-site but removed to landfill/dumpsite designated by the local authority or the environmental agency as appropriate;
- Oil and lubricant waste should not be buried or burnt in the project site, but collected and stored in proper oil-cans and disposed for re-use or local authority approved designated sites.

Water resources

- Identification of the reliable water resources and obtain necessary approvals from the relevant authorities to extract water prior to commencement of construction work;
- Contractor should not obstruct or prevent water flow when working closer to water bodies;
- Silt traps and erosion control measures should be used where the construction carry out closer proximity to the water bodies to avoid entering of construction materials which cause turbidity and sediments;
- Construction material and stock piles should be covered to avoid wash off to water bodies;
- Water conservation practices should be in place in construction offices and camps;
- Camps should not be located near water ways, human settlements or near drinking water intakes.

Biodiversity and sensitive habitats

- A compensatory tree planting program should be developed to replant native species wherever available space beside the proposed project;
- Workers should be instructed to protect flora and fauna including aquatic life as well as their habitats;
- Hunting and poaching should be strictly prohibited;
- Washing, maintenance and service of vehicles and machinery should not be done closer to the freshwater habitats;
- Solid waste, construction debris should not be dump into wetlands or natural habitats.

Cultural heritage**4. Infrastructure Development**

The initial impact assessment on PCRs from infrastructure development interventions under the project will be undertaken as part of the environmental screening. This would involve a site inspection and reference to maps of heritage building, property and landscapes prepared by the competent authority⁶. The goal of environmental screening is to:

- determine the presence or absence of PCR sites within the project boundary and its area of influence
- if yes, to describe the extent, character and ownership of the PCR and investigate the significance of it
- evaluate the scope for impacts on each site in the event of project proceeding and document them.

Depending on the significance of the PCR, its ownership and location, EMPs may need to be reviewed and cleared by the SBA&H.

⁶ State Board of Antiquities & Heritage (SBA&H)

5. Chance finds procedures

Contracts for civil works involving earth moving and excavation activities, especially in known archaeological and heritage areas, should normally incorporate procedures for dealing with situations in which buried PCRs are unexpectedly exposed.

6. Recognition of unknown PCRs

For EODP contracts, an initial consultation with the Department of Antiquities should be held before work commencement to identify the likelihood of such material being uncovered, especially where trenching work is expected for pipe laying etc. Upon discovery of such material during execution of work, the contractor should carry out the following;

- Immediately stop construction activities.
- With the approval of the resident engineer delineate the discovered site area.
- Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a night guard should be present until the responsible authority takes over.
- Through the Resident Engineer, notify the responsible authorities (SBA&H and local authorities) within 24 hours.
- Submit a brief chance find report, within a specified time period, with date and time of discovery, location of discovery, description of finding, estimated weight and dimension of PCR and temporary protection implemented.
- Responsible authorities would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out.
- An evaluation of the finding will be performed by the SBA&H who may decide to either remove the PCR deemed to be of significance, further excavate within a specified distance of the discovery point and conserve on-site, and/or extend/reduce the areas demarcated by the contractor etc.
- Construction work could resume only when permission is given from the Department of Archaeology after the decision concerning the safeguard of the heritage is fully executed.

Socio-economic

- In case of temporary or permanent land acquisition, apply the Resettlement Policy Framework (RPF)⁷ and the implement a Resettlement Action Plan (RAP).
- Mobilizing maximum capacity of skilled and unskilled labor force from the surrounding project area;
- Identify location of camps with consultation with the local community and local authority;
- Ensure installation of adequate construction camps and sanitation facilities for construction workers to control of transmission of infectious diseases.

Health and Safety

The proposed project interventions will mostly involve small to medium scale construction sites. As such, extreme dangers posed by working in environments such as great heights, deep water and involving dangerous chemicals and radioactive material will not be present. Health and safety of workers and the public should be designed into constructions, before and during and after the building phase.

The following safety measures can be used as general guidelines:

Environmental Assessment for each site should mandatorily include a risk assessment as to what are the hazards involved in the work site, who might be harmed and how seriously, how likely this harm might happen and what actions are required to eliminate or reduce the risk and incorporate such measures in

⁷ A Resettlement Policy Framework (RPF) is separately prepared which outlines the necessary procedures to be followed in case of involuntary resettlement.

the EMP and clearly set out in the tender documents. All sub-projects must observe health and safety regulations, hence during implementation it is important to check if these control measures are put in place and are meeting the legal requirement.

Training

- Ensure constructors carry out suitable training programs on occupational health and safety for workers prior to commencement of construction.
- Ensure only experienced and well trained workers are used for the handling of machinery, equipment and material processing plants
- Ensure all persons, including managers, are trained and able to carry out their work without risk to the safety or health of themselves, other workers or the public

Personal Protective Equipment

- Ensure appropriate safety equipment, tools and protective clothing are provided to workers and that safe working methods are applied. A safety inspection checklist should be prepared taking into consideration what the workers are supposed to be wearing and monitored.
- Any person who works or operates in an area where there is a risk of flying objects, such as splinters, should wear safety goggles at all time. These should be securely fitted to the face. Welders should protect the entire face from hot sparks and bright rays by using a welding mask.
- Any person exposed to high levels of dust or hazardous gases (when working in tunnels) should wear respiratory protection in the form of disposal masks or respiratory masks which fit more snugly around the nose and mouth.
- Any person working in an area where there is the risk of being struck on the head by a falling or flying object should wear a hard hat at all times. These should be well maintained in order to be fully effective, and any helmets or hard hats that are damaged or cracked should immediately be replaced.
- All workers will be required to wear shoes or strong boots to prevent sharp objects from penetrating or crushing the foot. Those working in muddy conditions and in canals with polluted water should avoid hand/foot contact with water and should never wear slippers.
- Road workers should wear reflective vests to avoid being hit by moving vehicular traffic.

Site Delineation and Warning Signs

- Ensure delineation devices such as cones, lights, tubular markers, orange and white strips and barricades are erected to inform oncoming vehicular traffic and pedestrians in the area about work zones.
- Ensure all digging and installing work items that are not accomplished are isolated and warned of by signposts and flash lamps in nighttime.
- Ensure dangerous warning signs are raised to inform public of particular dangers and to keep the public away from such hazards.
- Ensure rehabilitation of trenches progressively once work is completed.
- The safety inspection checklist must look to see that the delineation devices are used, whether they are appropriately positioned, if they are easily identifiable and whether they are reflective.

Equipment safety

- Work zone workers use tools, equipment and machinery that could be dangerous if used incorrectly or if the equipment malfunctions Inspections must be carried out to test the equipment before it is used, so that worker safety can be secured. Inspections should look for evidence of wear and tear, frays, missing parts and mechanical or electrical problems.

Traffic management

- Ensure traffic control plans and procedures are in place when work zone is set up and how to handle full or partial road closure, blocked intersections, sidewalk closure etc
- Ensure installation of transport signs and lighting systems in conspicuous places to assure transport safety. Transport signs should be installed at places where accidents may be easily happened (populated centers, schools, hospitals, commercial areas etc)

Material management

- Ensure easily flammable materials are not be stored in construction site and that they are transported out of project site

Emergency Procedures

- Ensure an emergency aid service is in place in the work zone.
- Ensure all site staff is properly briefed as to what to do in the event of an emergency, such as who to notify and where to assemble for a head count. This information must be conveyed to employees by the site manager on the first occasion a worker visits the site.

Construction camps

- Ensure installation of adequate construction camps and sanitation facilities for construction workers to control of transmission of infectious diseases.

Information management

- Provide advance notice to local communities by way of information boards about the schedule of construction activities.
- Develop and establish contractor's own procedure for receiving, documenting and addressing complaints that is easily accessible, culturally appropriate and understandable to affected communities.

Worker consultation

- Consulting the workforce on health and safety measures is not only a legal requirement, it is an effective way to ensure that workers are committed to health and safety procedures and improvements. Employees should be consulted on health and safety measures and before the introduction of new technology or products.

6.2.2 During Operation

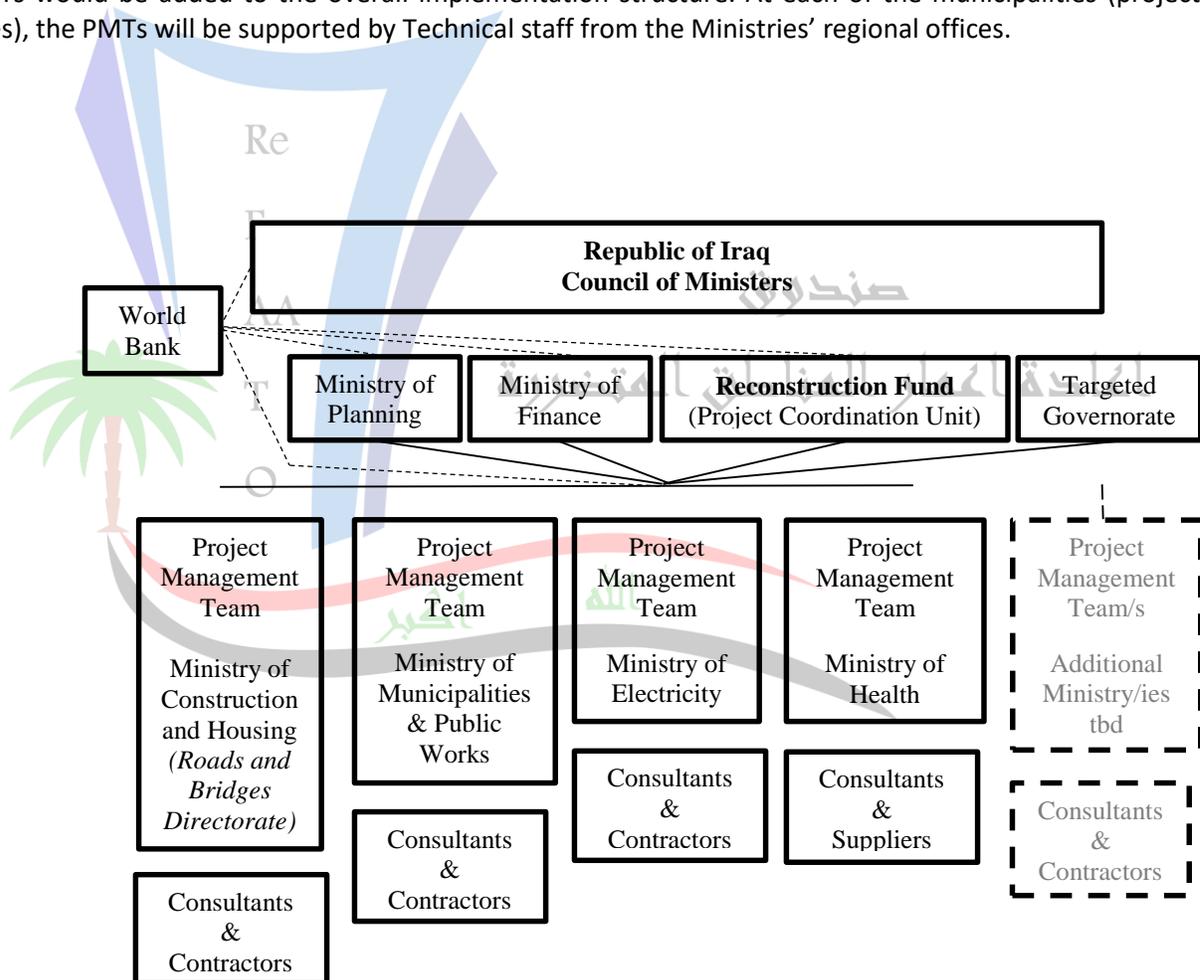
During operation, each of the EODP subprojects should follow the requirements of the national environmental legislations and maintain records to ensure continuous environmental compliance.

7. INSTITUTIONAL FRAMEWORK FOR SAFEGUARDS MANAGEMENT

It is necessary to have a well-defined institutional and implementation mechanism for identifying, appraising, managing and monitoring safeguards at all levels. The focus of this section is to lay out the roles, responsibilities of various parties and the due diligence process that will need to take place from the preparation of an investment through implementation completion.

7.1 Overall project implementation arrangements

The overall responsibility for Project coordination lies with Iraqi Council of Ministers through a Project Coordination Unit (PCU) under the Reconstruction Fund for Areas Affected by Terroristic Operations⁸. In turn Project Management Teams (PMTs) established within counterpart Ministries will be responsible for sectoral (energy, transport, water and sanitation, municipal solid waste management, housing, health) project implementation. During implementation, additional sectors may be added to the Project, subject to these fulfilling the basic selection criteria. Furthermore, it is possible, that additional ministries and PMTs would be added to the overall implementation structure. At each of the municipalities (project sites), the PMTs will be supported by Technical staff from the Ministries’ regional offices.



To identify and prioritize the subprojects, the Ministries and their PMTs will coordinate closely with the local Governorate staff and authorities, to ensure the identified subprojects are in line with local expectations.

⁸ The Reconstruction Fund has been established by the Government of Iraq reporting to the Council of Ministers with an allocated budget of 500 trillion Iraqi Dinars, equivalent to about USD 431 million, to reconstruct damages incurred from the liberation activities from ISIS insurgency.

7.2 Implementation arrangements for environmental and social safeguards

Planning, implementation and supervision of environmental safeguards will take place at three levels;

7.2.1 PCU Level

Among its key tasks, the PCU will be responsible for providing the overall policy direction, technical assistance, review and endorsement of screening reports, environmental and social assessment and management plans, capacity building for effective safeguards management to the implementing agencies, monitoring of environmental compliance and progress reporting to the World Bank.

7.2.2 Project Management Teams (PMTs)

The responsibility of day to day planning, implementation and supervision of environmental/social safeguards specific to sub-projects will be borne by the PMTs. Each agency will assign focal point(s) for environmental and social safeguards who will ensure timely and sound application of the ESMPs to the planned investments. The environmental/social focal points will work closely with the PCU environmental/social consultants to ensure harmonization and coordination of activities according to the ESMMF requirements. The focal points for environmental and social affairs should have sufficient background to support the implementation of the ESMPs. In case of need for additional capacity, the PMTs may recruit external consultants who have sufficient expertise to support PMTs' focal points.

At the field level, it is expected that the PMTs environmental and social focal points will conduct regular field supervision to ensure compliance of contractors, their workers and practices, to the ESMPs. PMTs will also require the engineering and technical firms to recruit specialized staff in environment, social development and health and safety to conduct daily supervision on field activities and prepare non-compliance reports on which the PMT will investigate and take action accordingly.

7.2.3 Contractors

Implementation of the ESMPs will largely be the contractors' responsibility and for this the contractor will have to nominate qualified environmental, health and safety consultant and a social development consultant (if needed) in order to ensure compliance with the ESMPs during construction.

7.3 Key roles and responsibilities of various parties involved in safeguards management

7.3.1 Environmental Consultant - Project Coordination Unit

- Provide overall policy and technical direction for environmental safeguards management under the EODP (as defined by this framework);
- Ensure suitably qualified and experienced personnel are in place in each PMT;
- Co-ordinate closely with the Environmental Officers in the PMTs in planning and managing the EA cycle in relation to the project implementation schedule; and provide necessary technical assistance to facilitate the implementation, management and monitoring of environmental and social safeguards
- Review and endorse environmental screening reports, site specific environmental assessments/management plans prepared for each Category B and C sub-project ;
- Ensure that applicable measures in the EMP are included in the design, and condition on compliance with EMP is included in the bidding documents

- Develop, organize and deliver environmental training programs and workshops for the staff of PMTs, contractors, field supervision staff and other implementing agency officials (responsible for the supervision of Maintenance works), as needed, on safeguard requirements and their management
- Develop programs to build long-term capacity in the PMTs for improved environmental and social management and monitoring
- Prepare additional technical guidelines, if necessary, to support the ESMF in order to strengthen the implementation of environmental safeguards
- Report to WB and the PCU on the overall environmental performance of the project as part of PCU's periodic progress reporting.
- Hold regular review meetings with the environmental officers of the PMTs
- Promote community participation in the process of planning, management and monitoring of environmental impacts of sub-projects; provide guidelines on community participation in environmental monitoring to the PMTs
- Support technical components of the project such as SWM and draft TORs for technical studies and consultancies, if the need arises.

7.3.2 Environmental/Social Focal Point – Project Management Team

- Ensure environmental screening is carried out for each sub-project as soon as conceptual technical design and scope have been defined;
- Closely co-ordinate with the PCU for review and endorsement of the screening decision and recommendation
- Ensure timely preparation of Environmental Assessments/Management Plans for sub-projects, as necessary (depending on screening outcome);
- Co-ordinate with PCU for hiring technical assistance, where necessary, and for review and endorsement of these safeguard documents
- Ensure consistency of safeguard documents with national environmental regulations; work with the PCU to obtain necessary clearances from environmental authorities for sub-projects, where applicable;
- Ensure relevant ESMP provisions are included in the design; and ESMPs are included in the bid documents; and condition on compliance with ESMP is included in the contractor's agreement;
- Ensure compliance with ESMPs during the construction period and maintain close co-ordination with the site engineer and the Environmental focal point of the contractor;
- Co-ordinate with PCU for planning and delivering short training programs and workshops for the contractors and field supervision staff on the project's safeguards requirements and procedures;
- Prepare and submit regular environmental monitoring and implementation progress reports to the PCU;
- Ensure adequate public consultation during environmental screening and ESMP preparation; encourage community participation in sub-project planning, management and monitoring
- Ensure public complaints relating to nuisance and inconvenience caused by sub-project implementation are addressed with corrective action and adequately documented

7.3.3 Environmental Focal Point - Contractor

- Ensure implementation of relevant provisions of the ESMP during sub-project implementation; prepare contractor's plan for implementing the ESMP
- Ensure close co-ordination with the Environmental Officer from the PMT offices and report progress on compliance on a regular basis

7.4 Environmental Monitoring

The EODP will focus on effective environmental monitoring. As majority of the anticipated environmental impacts from the project are general in nature and related to construction and civil works, site management, worker/public safety etc, monitoring will be largely carried out in the form of compliance monitoring through regular site supervision by the responsible officers. A general monitoring checklist and a specific construction safety monitoring checklist to be used and filled during site supervision is provided in Annexes 3 and 4. These lists should be updated and expanded to include impacts which are mostly case-specific and other site-specific environmental impacts based on actions agreed in the EMPs. Monitoring of environmental parameters (such as air, water, salinity, sediment quality, etc.) will be conducted based on the requirements specified in the individual ESMs. However, given the ambient levels of noise and emissions in the surroundings, pollution in the waterways...etc., no significant impacts on the surroundings' environmental quality are anticipated as a result of project activities.

As such, the need for regular and systematic measuring of air, noise and water quality to monitor contribution to environmental degradation from the project per se is not considered essential except in few cases.

The overall project impacts will be monitored during project implementation through a number of selected indicators which reflect the positive environmental contribution from the project to the overall environment. As such, no additional environmental indicators are proposed.

Most importantly, the project will support independent environmental audits on an annual basis throughout project implementation.

7.5 Progress Reporting

Progress reporting on safeguards compliance will take place as indicated below.

- Contractor's environmental compliance reports to the PMTs on a monthly basis;
- PMTs environmental/social progress reports to the PCU on a quarterly basis
- PCU environmental/social progress reports to the WB, Council of Ministers on a quarterly basis (this will be part of the quarterly project progress report produced by the PCU)

7.6 Capacity Development Requirements

Currently, the capacity of the PCU and PMTs in managing environmental and social safeguards is not adequate. Therefore, dedicated staff and resources should be mobilized in order to support the implementation of the environmental and social requirements.

For effective environmental/social safeguards management, the project agencies will require implementation support in three main areas; (i) dedicated staff and resources (ii) technical assistance and (iii) training and awareness.

7.6.1 Dedicated staff and resources

(See section 7.3 above and 7.6 below).

7.6.2 Short-term training and awareness programs

In order to ensure safeguard procedures, instruments and monitoring needs of the EODP are well understood by the PCU and its implementing partners, short-term training and awareness workshops will be conducted targeting primarily project and contractor staff on (i) World Bank's safeguard policies (ii) national environmental regulations and (iii) safeguards planning, management and monitoring requirements of the EODP as specified in the ESMF.

7.6.3 Technical assistance

Where stand-alone EAs/ESMPs are required as screening outcomes, the PCU will hire independent consultants. In addition, for contracts which may contain substantive quantities of hazardous wastes (such as asbestos), the PCU will hire specialist services who will prepare appropriate management and disposal plans, carry out additional sampling (if needed) and site monitoring, conduct awareness for implementing agencies and contractors of disposal plans, monitor compliance and ensure control measures are adequately implemented.

7.7 Estimation of Environmental Safeguards implementation cost

Table 16: Estimated Cost of Environmental Monitoring

Activity	Unit	Unit Rate (US\$)	QTY	Total in US\$
1. ESMP preparation				
- Simple checklist	Checklist	5000	100	1,000,000
- Extensive ESMP/ESIA	Report	20000	25	
2. Personnel	Man Month (MM)			
PCU Level				
- Environmental/social Consultant		3000	30	90,000
PMT Level				
- Environmental Officer/Consultant		3000	48	144,000
- Social development officer/consultant		3000	30	90,000
Contractor Level				
- Environmental Officer/Consultant		Included in construction costs		Included in construction costs
- Social development officer/consultant				
Sub-total (2)				324,000
3. Training and awareness				
- Training and awareness programs (short-term and long-term)				
- Training on sector environmental/social management issues	Lump-sum	Lump-sum	Lump-sum	
- Training programs on environmental safeguards, monitoring for project staff, contractors...etc.				
Sub-total (3)				100,000
4. Environmental monitoring (through independent third party institutions) to be covered in construction contracts				Included in construction costs
5. Contingencies (approx. 7% of total costs)				26,000
Total Cost				US\$ 1,450,000

8. DETERMINATION OF E&S INSTRUMENTS

This section will provide clear guidance on

1. which types of safeguards instruments will be required;
2. examples for damage patterns and related project typologies, ranging from simple, routine civil reconstruction works (e.g. road repair) to more complex repairs of e.g. bridges and larger structures;
3. reference to the entire anticipated scope of management, mitigation and monitoring measures (as shown in Annex 3).

8.1 Types of Safeguards Instruments

The types of safeguards instruments anticipated for the project range from abbreviated, checklist type ESMPs for simple, routine repair works, over more elaborate and comprehensive ESMPs to ESIA within clearly defined project boundaries. All project activities involving civil works on any scale will require some type of environmental / social management instrument, which will be determined and defined by the methodology presented in this section.

Most typologies within the expected scope of subprojects are expected to involve routine, simple civil works pertaining only to existing structures and footprints, where conflict-related damage was incurred. All of the expected types of interventions and civil works, e.g. repair / reconstruction of roads, transmission lines, municipal infrastructure, as well as the restoration of public services, will require safeguards instruments in form of ESMPs (E&S management plans) that would become part of the works contracts, set the E&S standards and compliance mechanisms, and serve as contractual basis for supervision and enforcement of good E&S practice during the works. However, considering the mostly simple nature of such repair and reconstruction works, for these typologies abbreviated, "checklist type" ESMPs (see Annex 4 for a template) will be prepared as appropriate safeguards instrument.

For some larger projects, e.g. reconstruction of bridges or wastewater treatment plants (WWTP), a limited ESIA (meaning within clear project boundaries) may be required (see Annex 5), as the works would be more substantial in scale, and rivers are more sensitive and vulnerable to environmental impacts. Also the ESMPs produced with input from the ESIA would be more specific on measures to protect water quality, riverine / aquatic ecosystems, and retain the hydrological regime around the bridge. Additional social considerations, such as continued access to the river for fishing and water abstraction, may become relevant. Similar principles would apply to projects that are located close to, or affecting natural habitats, including wetlands or forests.

The figure below depicts the selection methodology for the appropriate E&S instrument for a given subproject type. It takes into consideration four types of sub-project typologies (roads, energy and water infrastructure, large buildings or estates, and bridges and WWTP). These typologies are combined with 3 environmental baseline scenarios, ranging from urban (= least sensitive) to rural (= more sensitive) to rivers and natural habitats (= most sensitive).

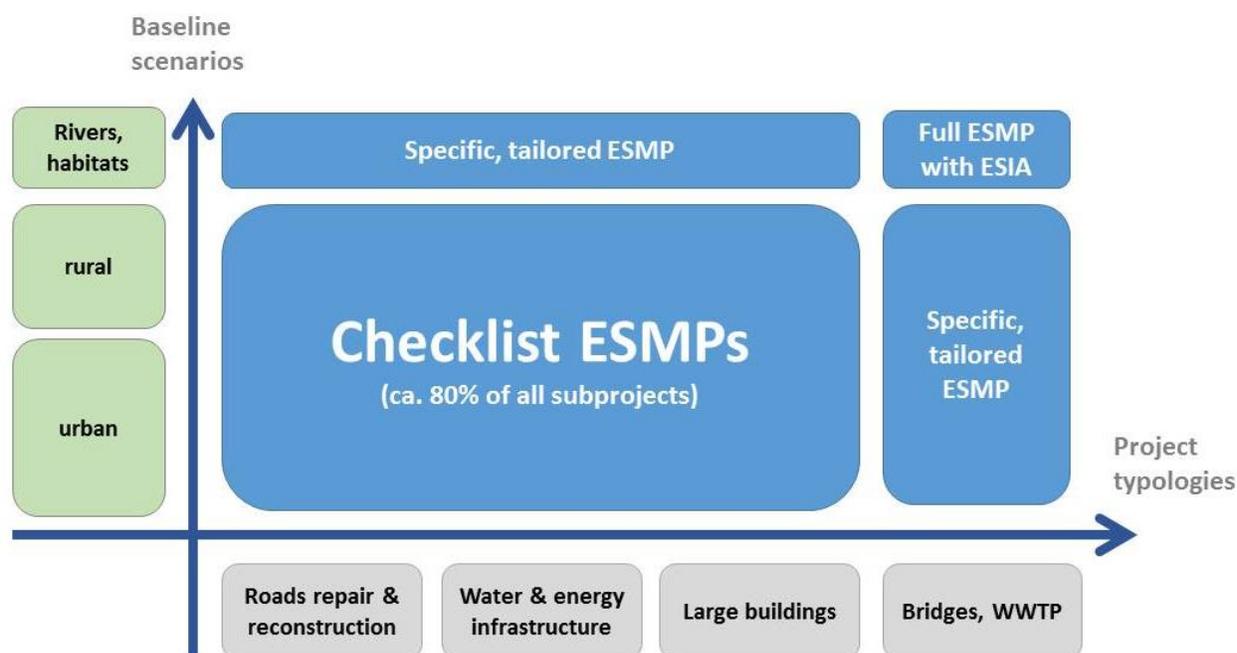


Figure 8: Decision matrix for selection of E&S instruments

As Figure 8 illustrates, the majority of projects, namely roads repair and reconstruction, water and energy infrastructure, and large buildings in urban and rural settings will only require the “checklist type” ESMP as appropriate due diligence instrument (see Annex 4 for template). If only minor repairs are planned for bridges and WWTP, even if in sensitive settings, that same principle applies.

The following table details the information contained in Figure 8, and allocates to each component the likely type(s) of E&S instruments:

Table 17: Anticipated E&S Instruments by Component

Component / Activities	Anticipated E&S Instruments
<p>Component 1: acquisition of equipment for the repair and reconstruction of damaged electricity distribution and transmission infrastructure; through technical assistance, supervision of the implementation of Electricity Subprojects, which will include engineering and civil works.</p>	<ul style="list-style-type: none"> No E&S instruments for sourcing for equipment Checklist ESMPs for most planned repair and reconstruction works Possibly specific ESMPs when encountering sensitive baseline conditions
<p>Component 2: (Year 1) urgent restoration of water, wastewater and solid waste services, repair, reconstruction and rehabilitation of damaged infrastructure; including water intakes, pipelines, treatment / purification plants, pumping stations, storage tanks, distribution networks, house connections, sewers and trunk lines, wastewater treatment plants, and storm water drains, reservoirs and outfalls.</p> <p>(Years 2 - 5) (i) additional water and sanitation damage and needs assessment, identification of further water and sanitation subprojects; (ii) preparation of detailed plans and designs; and (iii) provision of TA for implementation of water and sanitation subprojects.</p>	<ul style="list-style-type: none"> Checklist ESMPs for most planned repair and reconstruction works Site-specific ESMPs for larger reconstruction works (WWTP, pumping stations) combined with less sensitive baseline conditions ESIA + ESMPs for larger reconstruction works (e.g. WWTP, pumping stations) in combination with more sensitive baseline conditions E&S assessments and management systems will be mainstreamed into identification of further subprojects, as well as planning / design works and the TOR for supervision.

Component / Activities	Anticipated E&S Instruments
<p>Component 3 improvement of road assets, repairing and rehabilitating highly damaged segments of primary road network</p> <p>Repairing and reconstructing critical bridges and major culverts</p>	<ul style="list-style-type: none"> • Checklist ESMPs for most planned road repair and reconstruction works, site-specific ESMPs for road works in combination with more sensitive baseline conditions • Checklist ESMPs for minor bridge repair works, such as repairing the deck and surface. • site-specific ESMPs for more extensive reconstruction works (e.g. involving abutments and pylons, requiring access to river) combined with less sensitive baseline conditions • ESIA + ESMPs for more extensive reconstruction works (e.g. involving abutments and pylons, requiring access to river) in combination with more sensitive baseline conditions
<p>Component 4: Supply of mobile hospitals, mobile clinics, medical equipment and ambulances.</p>	<ul style="list-style-type: none"> • Checklist ESMPs for erection of clinics • Medical Waste Management Plans (MWMP) for operation of clinics and mobile hospitals

If e.g. a transmission line were to be repaired bordering or crossing a sensitive habitat (which need not necessarily be a formally protected area), a more comprehensive ESMP would have to be produced, taking into account specific baseline conditions, sensitivities and vulnerabilities, and ensuring that E&S provisions are formulated with specific reference to the local conditions.

If e.g. a large bridge crossing a river with sensitive riverine vegetation at the banks, perhaps including wetlands and backwaters with high biodiversity value, and if the repairs of the bridge were substantial, as e.g. to include work on foundations, removal of fallen debris, and generally necessitating access to pylons, foundations etc., a full and comprehensive ESIA would have to be prepared, analyzing and assessing baseline conditions, valued environmental components, and specific vulnerabilities. This ESIA would inform the ESMP, which would have to be specifically tailored to this sub-project, and comprehensively address all issues identified in the ESIA.

8.2 Description of E&S Instruments for the Scope of Subprojects

This section briefly characterizes the types of E&S instruments envisaged for the scope of activities under the project. The following Table is a concise summary of their key properties, and also makes reference to Annexes with detailed templates, TOR or descriptions.

Table 18: Description of E&S instrument types for subprojects

Instrument	Purpose	Scope and Contents	Annex
Checklist ESMP	(i) To Ensure basic compliance and good housekeeping for minor, routine civil works in non-sensitive environmental settings; (ii) simple, easily enforceable contractual basis for E&S compliance during construction works	Not very site-specific, covers all generic impacts that can occur during civil works; preconfigured template, where planned activities are checked and trigger clearly described, can be monitored and verifiable management and mitigation measures	#4
Site specific ESMP	(i) To capture E&S baseline conditions that are more sensitive and could require management and mitigation measures beyond the standard good practice approach prescribed by the checklist ESMP; (ii) to provide technical guidance and contractual basis to deal with specific, more sensitive or complex E&S issues	Besides the standard set of measures for good housekeeping, E&S management and mitigation, this instrument contains tailored measures and provisions to deal with E&S issues of higher sensitivity and complexity, e.g. the protection of sensitive areas or habitats, old trees, cultural heritage, or agricultural / horticultural lands.	#3
ESIA and ESMP	(i) To screen for, and assess anticipated E&S impacts of larger scale works that are situated in areas / locations where higher E&S sensitivities are expected; (ii) to provide technical guidance and contractual basis to carry out the required assessments during subproject design, and implement specific, more sensitive or complex E&S management, mitigation and monitoring measures during implementation & operation	This would be a full set of ESIA and specific, derivative ESMP according to the requirements for an environmental Category B project under the World Bank's OP4.01. It would contain a screening assessment of valued or sensitive environmental components and anticipated impacts, a detailed assessment thereof, and the design of specific, tailored management, mitigation and monitoring measures.	#5
MWMP	To ensure appropriate planning and preparation for the management and disposal of medical and infectious waste during operation of mobile hospitals and clinics.	Estimates the types and quantities of anticipated wastes; defines and describes systems to separate and collect, safely store, transport and treat medical wastes. Takes stock of existing capacities and installations, and describes the need for additional facilities (e.g. incinerators).	#6
ARAP / RAP	To ensure that all negative impacts on peoples land, livelihoods or property are properly accounted for and compensated, and that no one is worse off after project implementation, than before.	A detailed description is contained in the RPF prepared for this project.	none ⁹

⁹ A separate RPF is prepared.

8.3 Environmental safeguards due diligence process (screening, review and approval) at the sub-project level

The following table shows the key steps in the sub-project cycle and the main responsibilities among the different project partners.

Table 19: Environmental Safeguards Identification Responsibilities

Key steps in a sub-project cycle (in chronological order)		Responsibility			
		PCU	PMT	Contractor	WB
1	Identification of sub-project ; Application preparation and its submission to PCU		X		
2	Review of sub-project application; Endorsement/rejection	X			
3	Completion of environmental screening		X		
4	Review and endorsement of screening report and decision Category B and C	X			
5	EA/EMP financing and preparation (if determined by screening outcome)	X	X preparation		
6	Review and clearance of EA/EMP	X In prescribed projects the PMU will submit documents to MEON and obtain approvals			
7	Obtain clearances from local environmental/regulatory authorities	X			
8	Implement sub-project in line with EMP		X	X	
9	Monitor environmental compliance based on EMP	X Documents review	X sample basis	X Daily basis	
10	Reports to PMT on EMP compliance			X	
11	Reports to PCU on EMP compliance		X		
12	Maintaining records of safeguards documents for all sub-projects	X	X		

9. DISCLOSURE AND CONSULTATION ACTIVITIES

For all types of environmental analyses conducted under the EODP (including screening), communities in the project sites should be consulted within a structured and culturally appropriate manner. Further, environmental assessment documentation and EMPs should be made available to the public (in accordance with the World Bank's policy on Access to Information) by the PCU/PMTs prior to tendering of works contracts through the website of the project and notices through media, as appropriate.

In addition, it will be necessary to conduct discussions with the regulatory agencies on relevant issues and other implementing agencies who would have a stake in the project due to various reasons. Consultation will enable the project implementing agency to understand the stakeholder's requirements and for the stakeholders to develop an understanding of the project so that potential conflicts could be eliminated or minimized.

The process of consultation should be documented and account taken of the results of consultation, including any actions agreed resulting from the consultation. Public disclosure of the relevant safeguards documentation will be a pre-requisite for tendering civil works contracts.

The contract documents for each contract package will mandatorily include the relevant environmental mitigation provisions stipulated in the ESMPs (which would have community concerns reflected, if any) for the given sub-projects in order to ensure contractor compliance with safeguards requirements.

Given below is a brief framework for planning consultation under EODP. It has to be noted that only the appropriate consultation method will be applied to sub-project during implementation and the responsibility of consultation lie primarily with the PMTs.

9.1 Objectives of stakeholder consultations

The prime objectives of stakeholder consultation are;

- Provide the stakeholders an opportunity to inform and influence the decision making process.
- partner with the stakeholders so as to make the project widely accepted and to lower the potential impacts

9.2 Elements of Effective Stakeholder Consultations

Some of the most concerned elements of effective consultations are as follows;

- well targeted
- early enough so as to make sure to get the stakeholder views adequately reflected in the project decisions
- transparent – provide all the information without hiding anything
- make the consultation process very simple and understandable so that clear answers and comments can be obtained
- ensure gender equity
- documentation of consultation
- based on the principle of "Two way Process"
- focus the consultation on Risks, impacts, mitigation measures and opportunities.

9.3 Suggested Methods

Participatory workshops, focus group meetings and face to face and informal individual interviews are the three most commonly adopted methods of stakeholder consultations and a mix of these can be employed under EODP, as determined by the requirement.

Participatory workshops

Participatory workshops are effective when a large number of stakeholders with different interests and specializations get involved. Conducting effective participatory consultation workshops should consist of following elements;

- i. Orient the workshop towards a clear destination. In this connection it is necessary for the evaluator to present a very good project brief and the purpose of the consultation.
- ii. The evaluator should be able to build bridges and consensus among stakeholders.
- iii. Divide the participants into sub groups to represent adequate mixture of different interest groups and allow the sub groups to brainstorm among the group members and submit their views and comments as those of not individuals but of the sub groups.

Focus groups discussions

The focus group consultation meetings are relevant when the stakeholders have similar interest thus their objectives are focused towards one common objective. This kind of consultation meetings are recommended for projects that involve relocation of families or protection of natural resources etc.

Stakeholder group meetings

Stakeholder consultations are extremely useful in creating the right kind of understanding about the project among those it will likely affect or interest, and to learn how these external parties view the project and its attendant risks, impacts, opportunities and mitigation measures.

Individual - face to face interviews

When the stakeholders are not large in number and represent specialised areas of interest face to face interviews which are informal are very effective. This system is very flexible, permits in depth discussions to understand the issues and is low cost. However individual stakeholder consultations should be well planned as if not it may lead to "heavy focus on individual issues and interest". This method is recommended for the kind of consultation envisaged as part of sub-project screening as the sub-projects under EODP as they are relatively small in size, potential impacts are very specific, and stakeholders are small in numbers.

The stakeholder consultation process should be continuous. However since practical difficulties exists for continued consultation, at least consultation needs to be carried out at three stages; project preparatory / design stage, project implementation stage and project end stage so as to make sure that stakeholder concerns, interest, comments are adequately built into the whole project management process.

9.4 Results of the ESMF Public Consultation

The process of consultation should be documented and account taken of the results of consultation, including any actions agreed resulting from the consultation. Public disclosure of the relevant safeguards documentation will be a pre-requisite for tendering civil works contracts.

The contract documents for each contract package will mandatorily include the relevant environmental mitigation provisions stipulated in the ESMPs (which would have community concerns reflected, if any) for the given sub-projects in order to ensure contractor compliance with safeguards requirements.

The Draft Final ESMF has been consulted upon with a number of stakeholders. The first consultation was mainly conducted with representatives from the participating ministries in a meeting that was held on September 22, 2015 at the Reconstruction Fund headquarters in Baghdad (Annex 8).

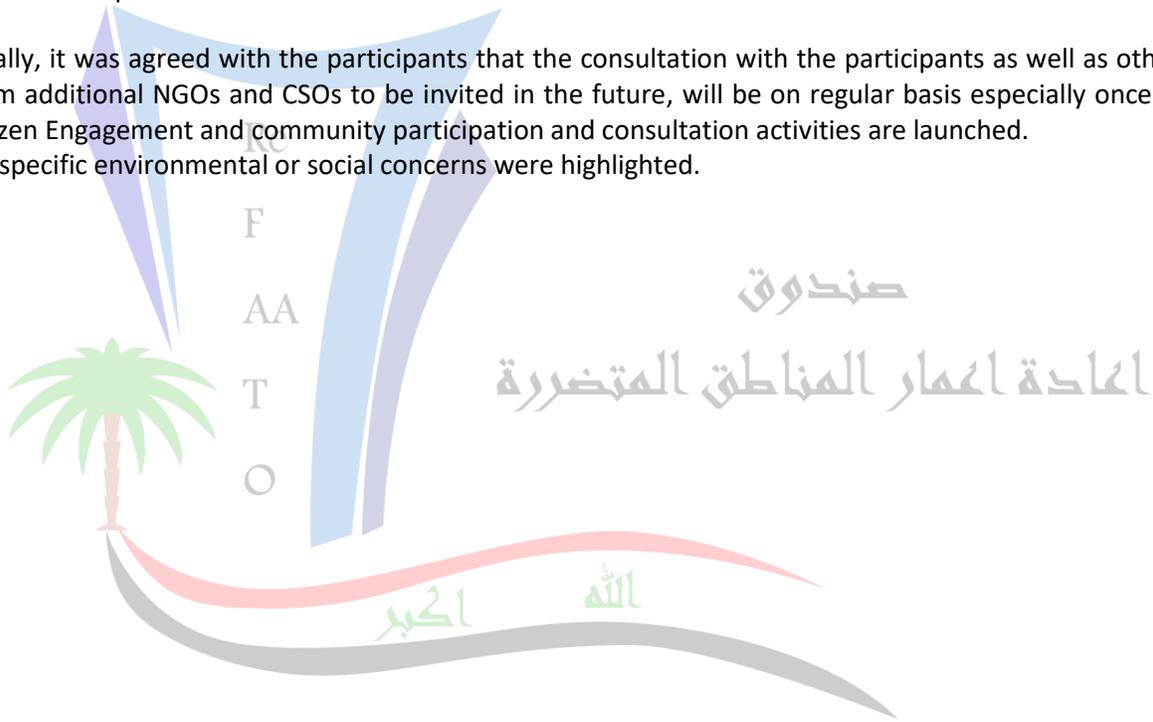
The second consultation meeting was held with representatives of nine (9) Nongovernmental Organizations (NGOs) and Civil Society Organizations (CSOs) on May 16, 2016 also at the RF headquarters in Baghdad (Annex 8).

As an outcome of the consultation session with the NGOs/CSOs, the participants showed support to the RF's efforts and the EODP's objectives. They determined that the speedy repairs and reconstruction of damages and reinstatement of essential services should be done as soon as possible.

The participants appreciated that EODP has prepared this ESMF in order to safeguard any potential environmental or social issues which may be related to the EODP activities.

The participants also expressed readiness to support and actively participate with the project to ensure a successful implementation of EODP.

Finally, it was agreed with the participants that the consultation with the participants as well as others, from additional NGOs and CSOs to be invited in the future, will be on regular basis especially once the Citizen Engagement and community participation and consultation activities are launched. No specific environmental or social concerns were highlighted.



10. ANNEXES

Annex 1: Environmental and social action Plan (ESAP)

Annex 2: Project description

Annex 3: Sample mitigation and monitoring plan

Annex 4: Template for “checklist type” ESMP

Annex 5: Minimum requirements for an ESIA for selected subprojects

Annex 6: Sample Outline for a Medical Waste Management Plan (MWMP)

Annex 7: Disclosure Requirements for E&S Instruments for Subprojects

Annex 8: Documentation of Disclosure and Consultation Activities



Annex 1: Environmental and Social Action Plan (ESAP)

I. Objectives

1. **The Environmental and Social Action Plan (ESAP)** provides a time-bound planning framework for the environmental and social safeguards instruments, the production of which has been deferred into the project implementation period under paragraph 12 of OP10.00, allowing for condensed procedures and deferral of the safeguards instruments in situations of urgent need for assistance. This ESAP provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the Bank supported Iraq Emergency Infrastructure and Services Restoration Project.

2. **The objective of the ESAP** is to ensure that the planned project activities and related Environment and Social (E&S) assessment and management instruments and processes will be in compliance with the national legislation of Iraq as well as the Bank's operational safeguards policies, and are duly and diligently implemented in a logical sequence with the environmentally and socially relevant project activities. This means that, as a general principle, E&S assessments and instruments should be completed, disclosed and consulted on before (i) project-funded activities with relevant E&S footprints may commence; and (ii) in case of more complex/large scale activities, before designs are finalized and contracts awarded.

3. **This ESAP was prepared by the Task Team** under OP10.00, paragraph 12 and complies with the triggered World Bank safeguards policies, specifically OP4.01, OP4.11, OP4.12 and OP7.50, and is subject to public disclosure as part of the Project Appraisal Document (PAD). In addition, it will be disclosed both in-country (in the appropriate communication channels, concerned sector ministries, and other public places of project intervention areas) as well as at the World Bank InfoShop during project preparation.

II. Project Scope and Context

4. **The project scope** is described in detail in the PAD in section III A, as well as Annex 2. In summary, the Project will support the rehabilitation and repair of damage to water and sanitation systems, electricity distribution networks, roads and bridges, as well as housing. Additional activities will include restoring municipal solid waste services and - as a basic precondition to many of the planned activities - rubble removal. Moreover, the Project may support repairing and reconstruction of public buildings such as schools, administrative buildings and primary health facilities. The Project also has an integrated administrative component.

5. **Fragility and Conflict Context:** One important consideration is the context of Iraq's current country conditions, in terms of security, capacity constraints, but also the environmental and social baseline. It is important to note that due to the prolonged state of fragility and the recent rekindling of conflict, state functions have been reduced to very basic levels of governance, technical expertise, governance and state presence. Under this pretext, the design of complex and sophisticated safeguards processes and instruments will neither be possible, nor conducive to the project's E&S performance. It thus is proposed to develop E&S instruments that are as simple and robust as possible. Practical examples for this approach include the maximum use of detailed templates and checklist formats with preconfigured lists of the scope of activities, linked to the range of anticipated impacts, the related mitigation measures, and the M&E arrangements to ascertain proper implementation. These can easily be completed by non-specialist personnel, attached to construction contracts, and are readable and accessible by the Contractor's site personnel.

III. Compliance with World Bank Safeguards Policies

6. Activities supported by the proposed operation are expected to have certain site-specific adverse environmental and social impacts. This ESAP has been developed specifically for these proposed activities to ensure due diligence, to avoid causing harm, and to ensure consistent treatment of social and environmental issues by the Government of Iraq. The purpose of this plan is also to assist the Project Management Teams in screening all the subprojects for their likely social and environmental impacts, identifying E&S management requirements and prioritizing the investments. The World Bank's policies on Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP4.11), Involuntary Resettlement (OP/BP 4.12), and International Waterways (OP7.50) are triggered for this Project.

7. **OP 4.01 Environmental Assessment.** The nature of the proposed project activities triggers OP 4.01 due to anticipated limited environmental and social impacts which will occur within close project boundaries on existing footprints, and be mostly of a temporary nature. The triggering of OP4.01 necessitates the preparation of general E&S management and "good housekeeping" instruments. There is no reason OP 4.04, OP 4.10, or OP 4.37 would be triggered. Considering the limited scale and magnitude of rehabilitation and improvement works as well as the confinement of activities to existing footprints, the proposed operations is classified as category 'B'.

8. **OP 4.11, Physical Cultural Resources (PCR):** The proposed operations are not expected to pose risks of damaging cultural property. However, Iraq is a country extremely rich in PCR, and the destruction experienced during combat activities between ISIS and Coalition forces are highly likely to have affected historical buildings, religious sites such as mosques and shrines, and monuments. Destruction may have been random acts of war, but also targeted acts of sectarian violence. Dealing with PCR has been included into the ESMF and will be part of the planned TA component. This may identify and include assistance for the preservation of historic sites and/or re-building of damaged historical buildings. If these opportunities occur, cultural property management plans would be prepared for these subprojects.

9. **OP 4.12 Involuntary Resettlement.** The need for involuntary resettlement or land acquisition in specific subproject areas will only be known during project implementation, when site-specific plans are available. Therefore, subprojects will be screened for applicability of the resettlement policy and any subprojects involving involuntary resettlement or land acquisition will only be approved after preparation of a resettlement plan acceptable to the Bank. Several issues will increase the complexity of land acquisition. For example, the lack of reliable land record systems, and the inability of people losing land to either document ownership or be physically present to make their claims for eligibility. The safeguards framework will, therefore, include procedures for identifying eligible project-affected people, calculating and delivering compensation, and mechanisms for land dispute grievance redress.

10. OP 4.12 covers those persons affected by involuntary taking of land. The other social dimensions including poverty impacts, gender, and civic engagement, etc. will be covered by ESIA of site specific subprojects. The site specific ESMPs will include measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups.

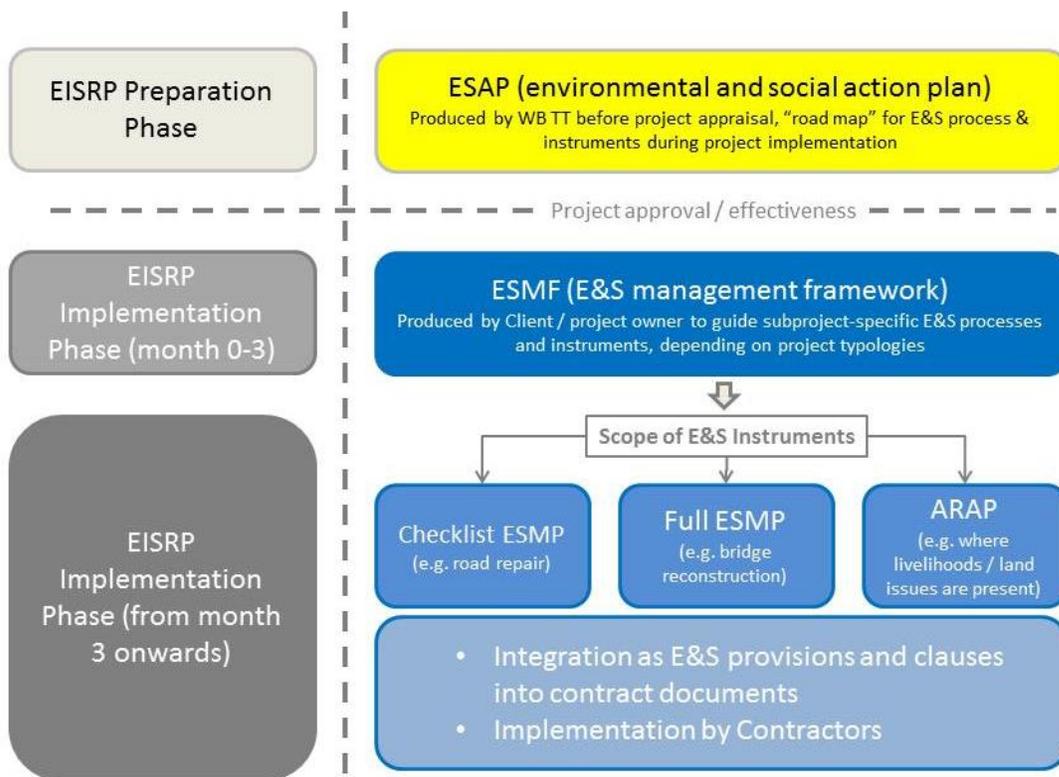
11. **OP7.50 International waterways:** The project will support activities involving the rehabilitation of water supply and sanitation infrastructure and thus fall within the applicability of OP 7.50 (Projects on International Waterways). However, the project will not actually affect the hydrological flows, or water quality of any water or groundwater bodies that qualify as international waterways under this policy, because it will exclusively finance the rebuilding of pre-existing structures. Thus the exception to the riparian notification requirement under paragraph 7 (a) of OP 7.50 is applicable to the project for the following reasons: (i) this project does not respond to growing demand for water and therefore no attempt to increase water off-take from international waterways, but rather focus on repairing what has been damaged by the conflict; (ii) the rehabilitation of wastewater treatment plant(s) included into the scope of potential activities are of small scale addressing local demands, and also are not expected to be expanded or their capacity increased.

12. The team has not identified any meaningful alternatives to the current project design, as the project contents, geographic scope and activities are predefined by (i) pre-existing structures, infrastructure and assets, and (ii) the extent and distribution of damage related to combat activities. There is some scope for variation in identifying subprojects; the identification of the actual areas and physical assets to be included into the project will be based on extensive guidance by an ongoing needs assessment.

IV. Sequencing and Tentative Implementation Schedule for Safeguards Processing

13. A schematic representation of the safeguards framework is depicted in Figure 9 below:

Figure 9: Scheme of safeguards approach and instruments for EISRP



14. As a general principle, the implementing agencies will agree to apply the following minimum standards during implementation: (1) inclusion of standard Environmental Codes of Practice (ECOP) (Attachment 4) in the bid documents for rehabilitation, improvement and reconstruction activities for all subprojects; (2) review and oversight of any major reconstruction works by specialists; (3) implementation of environmentally and socially sound options for disposal of any hazardous waste (e.g. medical waste, debris or drain spoils, oil-contaminated soils or rubble); and (4) provisions for adequate and satisfactory budget and institutional arrangements for monitoring effective implementation.

15. The following time-bound deployment of the above described safeguards instruments is anticipated to manage and mitigate the potential adverse impacts:

- a. **During project preparation** a conceptual approach and draft TOR for an ESMF will be prepared and shared with the Client in order to swiftly initiate the preparation of this safeguards instrument after project effectiveness.

- b. **Immediately after project effectiveness, during the first three months of implementation:** Start of development of an ESMF and RPF, which will be the overarching safeguards document governing approach, processes and specific instruments for sub-projects. The ESMF will cover the following topics: (i) scope of project activities; (ii) typologies of expected impacts, as well as magnitudes and durations; (iii) types of E&S assessment/management instruments including the range of mitigation measures tailored to the identified sub-project/impact typologies; (iv) methodology for sub-project E&S screening, classification and allocation of specific E&S instruments; (v) review of relevant institutions, key players, roles and responsibilities and administrative processes; (vi) capacity analysis and training requirements; (vii) update of cost estimates for E&S management measures. The ESMF will also contain a positive and negative list of eligible/non-eligible subprojects, and make reference to the handling of explosive remnants of war (EWR), including the required screening, surveys and EDO organization. The RPF will cover the following topics: (i) a brief description of project activities; (ii) Principles and objectives governing resettlement preparation and implementation; (iii) a description of the process for preparing and approving resettlement plans; (iv) Eligibility criteria and estimated resettlement impacts; (v) legal framework; (vi) methods of valuing affected assets; (vii) institutional arrangements of resettlement planning and implementation; (viii) Grievance redress mechanism; (ix) Consultation; and (x) Arrangements for monitoring and evaluation.
- c. **Immediate commencement of minor works, prior to completion of ESMF:** To address the most urgent need for restoration of basic public services (transport, water / sewage, and electricity supply) the project will finance minor works, which will be allowed to proceed before the completion of the ESMF, if (i) a simplified ("checklist") ESMP had been prepared, (ii) found acceptable to the Bank and (iii) has been duly disclosed and consulted on. Minor works are defined in the following manner: (a) type of infrastructure: intra-urban roads, water distribution networks / canalization, and electricity distribution networks; (b) type of damage: partial damage (up to 30%) that does not require a complete rebuilding of physical assets, and allows to largely utilize the existing substance; and (c) low environmental and social impacts, meaning locally restricted, temporary and minor; (d) boundaries of works: strictly within the existing footprint, without any expansions or additions, even temporarily. The simplified ESMP will be one of the safeguards instruments defined in the ESMF, and is expected to be applicable to the majority of identified sub-projects (estd. about 80%).
- d. **During implementation phase, from month 3 onwards:** Continuous development of E&S management instruments for the expected typologies (e.g. repair / reconstruction of housing, roads, transmission lines, municipal infrastructure, as well as the restoration of public services). For the expected scope of subprojects freestanding, comprehensive ESIA's will mostly not be required, as all structures and installations will have existed before, and the project would only finance their repair, reconstruction or reinstatement. The expected typologies (e.g. repair/reconstruction of housing, roads, transmission lines, municipal infrastructure, as well as the restoration of public services) would mostly require simple, checklist-type ESMPs (E&S management plans) that would become part of the works contracts, set the E&S standards and compliance mechanisms, and serve as a contractual basis for supervision and enforcement of good E&S practice during the works. Comprehensive ESIA's will be not be required, as the structures and installations are existing, and the project would only finance their repair, reconstruction or reinstatement.
- e. **For some larger projects (e.g. bridge reconstruction),** a targeted ESIA may be required, which would be integrated into an expanded ESMP, as the works would be more substantial in scale, and rivers may be more sensitive and vulnerable to environmental impacts which would be integrated into the ESMP. Further, the ESMPs would be more specific on measures to protect water quality, riverine/aquatic ecosystems, and retain the hydrological regime around the bridge. Additional social considerations such as continued access to the river for fishing and water abstraction may become relevant. Similarly, the procurement, installation and operation of mobile hospitals while pre-existing

health facilities are restored would require a different focus and additional provisions in the ESMPs. Specifically, ESMPs for mobile hospitals would need to take operational aspects into account, ranging from wastewater and sewage treatment and disposal to the specific requirements for safe collection, handling, storage and treatment/disposal of medical waste. This latter requirement would be addressed via a separate medical waste management plan (MWMP). Land acquisition may become an issue due to the additional footprint of mobile hospitals, even if only temporarily, which would be covered by the RPF prepared for this project, and - if required - specific RAPs for mobile hospital sub-projects

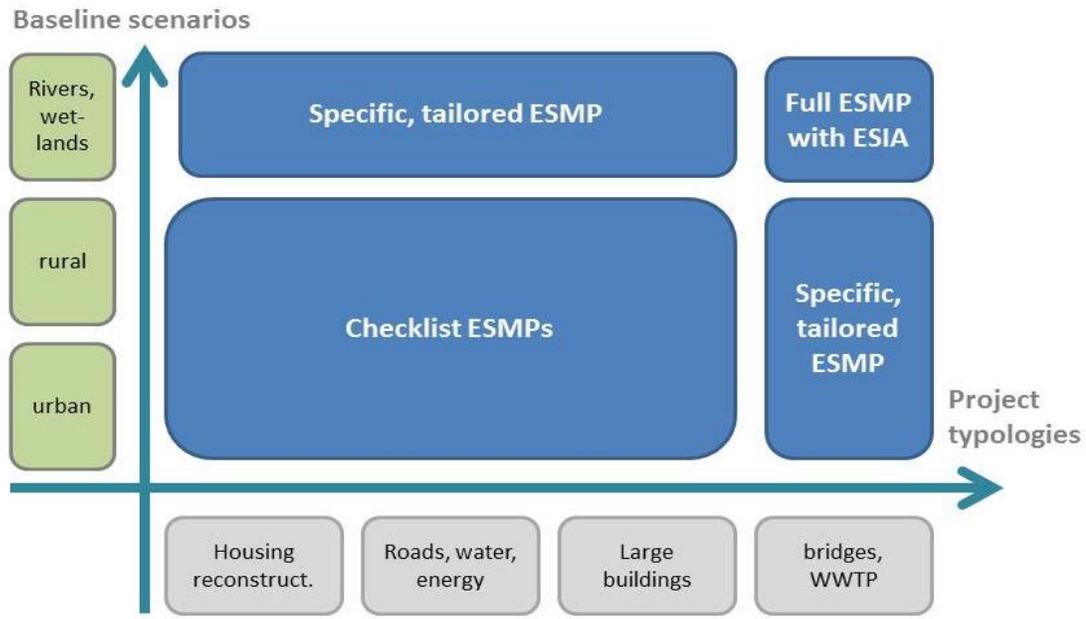
- f. ***In parallel with the sub-project ESMPs:*** Linked to the ESMF is the risk of UXO and ERW in the project areas. As the project will be implemented in areas recently liberated from ISIS rule, and as the liberation often took place with considerable combat activities, the presence of UXO and ERW is a certainty. Thus, all project areas will undergo a screening (technical survey) for UXO / ERW prior to any works, be it relating to damaged buildings, rubble, or any works below natural ground level. This survey will collect and analyze data using appropriate technical interventions about the presence, type, distribution and surrounding environment of mine/ERW contamination in order to define better where mine/ERW contamination is present and where it is not as well as to support decision making processes through the provision of evidence. Depending on the screening results, EOD measures will be organized, as an integral part of the rubble removal contracts.

16. **Preparation time for safeguards instruments including Bank review, revisions, clearance, and approval steps.** The preparation of the ESMF and RPF is estimated to require a time period of about 2 - 3 months, including Bank review and approval, disclosure, consultations and finalization. The preparation of limited ESIAs as the case maybe, and the ESMPs, as well as RAP/ARAP if needed, will range from 1 to 3 months including Bank review and approval, disclosure, consultations and finalization.

17. **Consultations and Disclosure.** The ESMF and RPF will be disclosed in-country and at the Infoshop after Bank review as final draft versions for a period no less than 30 days during which the Client will organize consultations for the affected stakeholders. The consultation mechanism for the sub-project specific ESMPs and limited ESIAs as well RAP/ARAP if needed will be designed with appropriate depth and breadth depending on the specific situation's complexity and dimensions. For some sectors (e.g. housing reconstruction subsidy scheme), consultations will be *extensive*, possibly require several stages, and will be an integral part of design. For some large structures (e.g. bridge reconstruction, or the rebuilding of important public assets like schools) disclosure and consultations will follow the standard approach for typical Cat B projects, with 15 to 30 day time window between disclosure and consultations to be undertaken before design finalization. For smaller works, such as the repair of roads, transmission lines or the water and sewage network, consultations will be for portfolios of multiple projects, based on large scale planning documents and generic E&S sample instruments.

18. **Implementation of safeguards instruments, if applicable, development of secondary instruments (e.g., subproject ESMPs or RAPs to be developed, by whom and by when).** After finalization of the ESMPs, no further safeguards instruments will be required. The checklist-format ESMPs/ARAPs will be customized to specific construction projects and become part of the tender and contract documents. No tender package will be issued without an attached ESMP and no contract signed without respective clauses obliging the Contractor to the ESMPs use and implementation. Figure 10 below gives a schematic overview how safeguards instruments will be matched with baseline conditions and project typologies:

Figure 10: approach for determination of appropriate safeguards instruments



19. **Implementation Monitoring:** The monitoring of safeguards compliance during project implementation, especially during and after construction works, is challenged by the currently poor security situation, severe access restrictions, and the longer term perspective of high volatility. Thus safeguards monitoring has been included into the TOR for a 3rd party monitoring consultant, who will also be responsible for technical quality, measurements, procurement and fiduciary compliance. The TOR specify that the Consultant will have strong field presence via local agents, and will cover all key areas and construction activities. The TOR further specify a detailed methodology and approach for safeguards monitoring, recording and reporting, as well as measures for rectification in case of non-compliance.

V. Roles & Responsibilities, incl. Supervision Arrangement for Safeguards Preparation, Implementation & Monitoring

20. **The responsibility for the implementation** of the above described safeguards instruments and processes will be with the PMTs (project management teams) working under the overall PCU that will be responsible for compliance with domestic environmental regulations, as well as the Banks E&S safeguards policies. The PMTs and the PCU will be staffed with qualified environmental and social specialists that will follow-up with the preparation and implementation of the safeguards instruments.

21. The Bank Task Team will be responsible for ensuring the timely commencement of the preparation of ESMF, RPF, ESMPs and as the case maybe the limited ESIA's or RAPs/ARAPs as needed. The task team will ensure that no contracts for works that have a physical impact are signed or reconstruction, or rehabilitation of proposed activities start without the required safeguards instruments in place.

22. The Task Team will also review ToRs (if required) as well as the ESMF, RPF, ESMPs and limited ESIA's or RAPs/ARAPs if needed, to ensure that their scope and quality are satisfactory to the Bank, will review tender documents and construction contracts regarding due consideration of the safeguards instruments, and the inclusion of effective and enforceable contractual clauses. Finally, the task team 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, site visits and spot-checks will be conducted. Depending on the circumstances (especially the security

situation), TPM will also be used for supervision and monitoring and would thus complement the efforts of the task team.

VI. Estimated Costs for Safeguards Preparation and Implementation Process

23. The cost of preparing the required safeguards instruments is estimated to be about USD 50,000 for the ESMF, and about USD 1 million for the subsequent safeguards instruments (assuming ca. 100 checklist ESMPs at USD 5,000 and 25 more extensive ESMPs at USD 20,000).

24. The implementation of ESMPs is expected to cost only a small fraction of design and construction cost, as most mitigation measures will be very generic, off-the-shelf, and implementable without specialized skills, experience or equipment. Assuming a proportion of about 0.5 %, for every USD 1 million spent on cleanup and reconstruction, USD 5,000 would be spent for environmental mitigation and management measures.



Attachments:

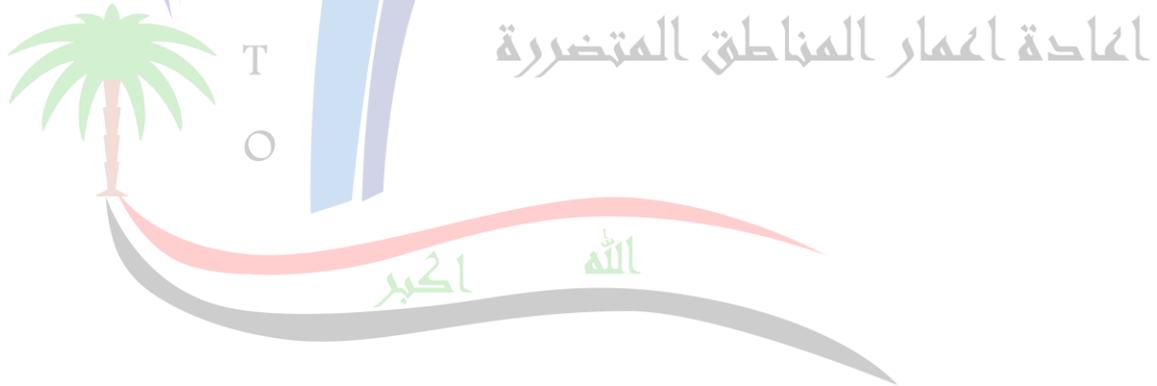
1. **Attachment 1:**List of Negative Subproject Attributes
2. **Attachment 2:** Checklist of Possible Environmental and Social Impacts of Projects
3. **Attachment 3:** Guidelines for preparation of an ESMP
4. **Attachment 4:** Codes of practice and mitigation of potential environmental impacts
5. **Attachment 5:** Safeguards Procedures for Inclusion in the Technical Specifications of Contracts
6. **Attachment 6:** Guidelines for land and asset acquisition, entitlements and compensation
7. **Attachment 7:** Protection of Cultural Property



Attachment 1: List of Negative Subproject Attributes

Subprojects with any of the attributes listed below will be ineligible for support under the proposed emergency infrastructure renewal project.

Attributes of Ineligible Subprojects	
General Characteristics	
• Concerning significant conversion or degradation of critical natural habitats.	
Damages cultural property, including but not limited to, any activities that affect the following sites:	
• Archaeological and historical sites; and	
• Religious monuments, structures and cemeteries.	
Requiring pesticides that fall in WHO classes IA, IB, or II.	
Sanitation	
New wastewater treatment plants to serve 10,000 or more households.	
Solid Waste	
New disposal site or significant expansion of an existing disposal site.	
Irrigation	
New irrigation and drainage schemes.	
Dams	
Construction of dams more than 5 meters high. Rehabilitation of dams more than 15 meters high.	
Power	
New power generating capacity of more than 10 MW.	
Income Generating Activities	
Activities involving the use of fuelwood, including trees and bush.	
Activities involving the use of hazardous substances.	



Attachment 2: Checklist of Possible Environmental and Social Impacts of Projects

I. Subproject Related Issues

S No	ISSUES	YES	NO	Comments
A.	Zoning and Land Use Planning			
1.	Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?			
2.	Will the subproject involve significant land disturbance or site clearance?			
3.	Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?			
B.	Utilities and Facilities			
4.	Will the subproject require the setting up of ancillary production facilities?			
5.	Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction (e.g., contractor will need more than 20 workers)?			
C	Water and Soil Contamination			
6.	Will the subproject require large amounts of raw materials or construction materials?			
7.	Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?			
8.	Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?			
9.	Will the subproject lead to contamination of ground and surface waters by herbicides for vegetation control and chemicals (e.g., calcium chloride) for dust control?			
10.	Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?			
11.	Will the subproject involve the use of chemicals or solvents?			
12.	Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?			
13.	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?			
D.	Noise and Air Pollution Hazardous Substances			
14.	Will the subproject increase the levels of harmful air emissions?			
15.	Will the subproject increase ambient noise levels?			
16.	Will the subproject involve the storage, handling or transport of hazardous substances?			
E.	Fauna and Flora			
18.	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?			
19.	Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?			
20.	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes, disturbance of wildlife habitats, and noise-related problems?			

F.	Destruction/Disruption of Land and Vegetation			
21.	Will the subproject lead to unplanned use of the infrastructure being developed?			
22.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?			
23.	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?			
24.	Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?			
25.	Will the subproject lead to erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains?			
26.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?			
27.	Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?			
G.	Cultural Property			
28.	Will the subproject have an impact on archaeological or historical sites, including historic urban areas?			
29.	Will the subproject have an impact on religious monuments, structures and/or cemeteries?			
30.	Have Chance Finds procedures been prepared for use in the subproject?			
H.	Expropriation and Social Disturbance			
31.	Will the subproject involve land expropriation or demolition of existing structures?			
32.	Will the subproject lead to induced settlements by workers and others causing social and economic disruption?			
33.	Will the subproject lead to environmental and social disturbance by construction camps?			

II. Site Characteristics

S No	ISSUES	YES	NO	Comments
1.	Is the subproject located in an area with designated natural reserves?			
2.	Is the subproject located in an area with unique natural features?			
3.	Is the subproject located in an area with endangered or conservation-worthy ecosystems, fauna or flora?			
4.	Is the subproject located in an area falling within 500 meters of national forests, protected areas, wilderness areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance?			
5.	Is the subproject located in an area which would create a barrier for the movement of conservation-worthy wildlife or livestock?			
6.	Is the subproject located close to groundwater sources, surface water bodies, water courses or wetlands?			
7.	Is the subproject located in an area with designated cultural properties such as archaeological, historical and/or religious sites?			
8.	Is the subproject in an area with religious monuments, structures and/or cemeteries?			
9.	Is the subproject in a polluted or contaminated area?			
10.	Is the subproject located in an area of high visual and landscape quality?			
11.	Is the subproject located in an area susceptible to landslides or erosion?			

12.	Is the subproject located in an area of seismic faults?			
13.	Is the subproject located in a densely populated area?			
14.	Is the subproject located on prime agricultural land?			
15.	Is the subproject located in an area of tourist importance?			
16.	Is the subproject located near a waste dump?			
17.	Does the subproject have access to potable water?			
18.	Is the subproject located far (1-2 kms) from accessible roads?			
19.	Is the subproject located in an area with a wastewater network?			
20.	Is the subproject located in the urban plan of the city?			
21.	Is the subproject located outside the land use plan?			

Signed by Environment Specialist:

Name: _____

Title: _____

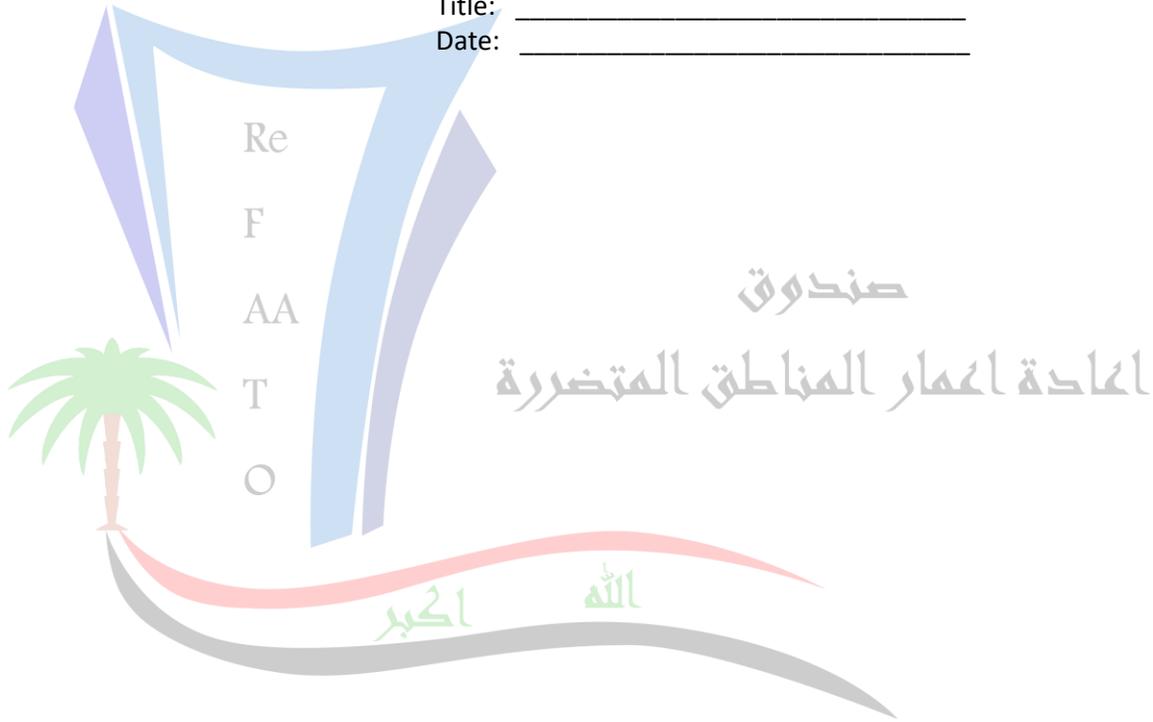
Date: _____

Signed by Project Manager:

Name: _____

Title: _____

Date: _____



Attachment 3:

Guidelines for preparation of the Environmental and Social Management Plan

Under the ESIA process, once the potential impacts of the relevant activities have been identified, the next step of the ESIA process involves the identification and development of measures aimed at eliminating, offsetting, and/or reducing impacts to levels that are environmentally acceptable during implementation and operation of the Project. The ESMP should describe the identified negative environmental and social impacts, proposed mitigation measures, responsibilities for implementation of these measures, timeline for implementation and indicative budget for each item. A sample EMP Checklist for Low-Risk Topologies will be provided to the project implementing agencies as a stand-alone attachment.

Description of mitigation measures

Feasible and cost effective measures to minimize adverse impacts to acceptable levels should be specified with reference to each identified impact. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESIA/ESMP should:

- Identify and summarize all anticipated significant adverse environmental impacts, including those involving involuntary resettlement;
- Describe each mitigation measure, including the type of impact to which it relates and the conditions under which it is required;
- Estimate any potential environmental impacts of these measures; and
- Provide linkage with any other mitigation plan (e.g. for involuntary resettlement) required for the Project.

Monitoring program

In order to ensure that the proposed mitigation measures have the intended results and comply with national standards and donor requirements, an environmental performance monitoring section should be included in the ESMP. The ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed and the mitigation measures described in the ESMP. The monitoring program should give details of the following:

- Monitoring indicators to be measured for evaluating the performance of each mitigation measure
- Monitoring mechanisms and methodologies;
- Monitoring frequency;
- Monitoring locations;
- Monitoring budget.

Capacity development and training: The ESMP will draw on the existence, role and capability of environmental units on site or at the implementing agency and ministry levels. If necessary the ESMP will include actions to strengthen environmental and social capability in the agencies responsible for its implementation.

Institutional arrangements: Institutions/entities responsible for implementing mitigation measures and for monitoring their performance should be clearly identified. Where necessary, mechanisms for institutional coordination should be identified, as monitoring often involves more than one institution.

Implementing schedules and cost estimates: The ESMP provides timing, frequency, and duration of mitigation, monitoring and capacity development measures with links to overall implementation schedule of the Project, as well as related capital and recurrent cost and sources of funding. The plan for the ESMP should be specific in its description of the individual mitigation and monitoring measures and its assignment of institutional responsibilities.

Attachment 4: Codes of Practice for Prevention and Mitigation of Environmental Impacts

Potential Impacts	Prevention and Mitigation Measures
<p>Impacts during construction:</p> <ul style="list-style-type: none"> • Fuelwood collection • Excessive water harvesting • Poor sanitation • Generation of solid (including hazardous) wastes • Groundwater contamination (oil, grease) • Accidents during construction • Impacts to physical cultural resources • Influx of migrant workers 	<ul style="list-style-type: none"> • Provision of fuel and water sources at the work camps to prevent stress to local communities due to cutting of firewood and collection of water. • Provision of proper, gender separated sanitation facilities at the work camps. • Removal of work camp wastes, proper disposal of oil, bitumen and other hazardous wastes. • Management of worker health and safety during construction period (refer to WBG Environmental Health and Safety Guidelines). • Use of chance-find procedures (refer to Attachment 4). • Provide comprehensive community participation in the planning, migration issue to be resolved through local redress mechanism. • Preference to employment of local workers.
<p>Medical waste</p>	<ul style="list-style-type: none"> • Wastes should be segregated at the point of generation according to their type: (a) Infectious, bio-contaminated wastes (including sharp materials); (b) chemical wastes (drugs, chemical solutions, etc.); (c) noninfectious, common wastes (paper, cardboard, glass, or the like; empty chemical product containers should be treated as chemical wastes). • Only puncture proof, hermetic plastic containers of 2–5 liter capacity or opaque glass bottles should be used to store sharp objects • For each hospital room, washable and easily disinfected PVC containers with a capacity of 40–50 liters should be used. Waste should be disposed of in colored bags according to national codification. Usually they are: red bags for bio-contaminated wastes; yellow bags for chemical wastes; black bags for common wastes. • These wastes should then be collected separately at latest 12–24 hours. The personnel assigned to handle medical waste should be properly trained and should wear protective gear such as with aprons, masks, boots and gloves. • Treatment should be done according to the type of waste. Sharp materials disposed in puncture proof containers should then buried in a protected sharp pit. Existing functioning nearby waste treatment facilities should be used but only if safe means of transport can be ensured. • Burial area should be isolated and protected to avoid illegal recycling. However, this may not be possible in permanent health facilities, due to lack of space. In such cases, protected areas should be used at landfill sites to receive treated wastes. Common wastes may be managed by the municipal waste-collection service, as long as they are not mixed and do not contain hazardous materials.
<p>Borrow sites</p>	<ul style="list-style-type: none"> • Design to prevent soil erosion and maintain slope stability • Avoid to have a borrow area close of the settlements

Potential Impacts	Prevention and Mitigation Measures
<p>Access Roads - Drainage:</p> <ul style="list-style-type: none"> • Design to provide adequate drainage and to minimize changes in flows, not limited to the road reserve. • Hampers free drainage, causes stagnant pools of water. • Increased sediments into ponds, streams, rivers due to erosion from road tops and sides. • Increased runoff and flooding 	<ul style="list-style-type: none"> • Design to provide adequate drainage and to minimize changes in flows, not limited to the road reserve. • Provision of energy dissipaters, cascades, steps and check dams. • Provision of sufficient number of cross drains. • Balancing of cut and fill. • Re-vegetation to protect susceptible soil surfaces. • Rehabilitation of borrow areas.
<p>Erosion:</p> <ul style="list-style-type: none"> • Erosion of land downhill from the road bed or in borrow areas; • Landslides, slips or slumps; • Bank failure of the borrow pit. 	<ul style="list-style-type: none"> • Design to prevent soil erosion and maintain slope stability. • Construction in the dry season. • Protection of soil surfaces during construction. • Physical stabilization of erodible surfaces through turving, planting native vegetation for slope maintenance and creating slope breaks. • Rehabilitation and re-grading of borrow pits and material collection sites prior to finalization of the project.
<p>Loss of vegetation:</p>	<ul style="list-style-type: none"> • Balancing of cut and fill. • Re-vegetation with native species to protect susceptible soil surfaces. • Minimize loss of natural vegetation during construction. • Re-vegetation and replanting to compensate any loss of plant cover and tree felling.



RC
F
AA
T
O

الله
الخير

Attachment 5:**Safeguards Procedures for Inclusion in the Technical Specifications of Contracts****I. General**

1. The Contractor and his employees shall adhere to the mitigation measures set down and take all other measures required by the Engineer to prevent harm, and to minimize the impact of his operations on the environment.
2. The Contractor shall not be permitted to unnecessarily strip clear the right of way. The Contractor shall only clear the minimum width for construction and diversion roads should not be constructed alongside the existing road.
3. Remedial actions which cannot be effectively carried out during construction should be carried out on completion of each Section of the road (earthworks, pavement and drainage) and before issuance of the Taking Over Certificate:
 - (a) these sections should be landscaped and any necessary remedial works should be undertaken without delay, including grassing and reforestation;
 - (b) water courses should be cleared of debris and drains and culverts checked for clear flow paths; and
 - (c) borrow pits should be dressed as fish ponds, or drained and made safe, as agreed with the land owner.
4. The Contractor shall limit construction works to between 6 am and 7 pm if it is to be carried out in or near residential areas.
5. The Contractor shall avoid the use of heavy or noisy equipment in specified areas at night, or in sensitive areas such as near a hospital.
6. To prevent dust pollution during dry periods, the Contractor shall carry out regular watering of earth and gravel haul roads and shall cover material haulage trucks with tarpaulins to prevent spillage.

II. Transport

7. The Contractor shall use selected routes to the project site, as agreed with the Engineer, and appropriately sized vehicles suitable to the class of road, and shall restrict loads to prevent damage to roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to the roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the approval of the Engineer.
8. The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
9. Adequate traffic control measures shall be maintained by the Contractor throughout the duration of the Contract and such measures shall be subject to prior approval of the Engineer.

III. Workforce

10. The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.
11. The Contractor shall install and maintain a temporary septic tank system for any residential labor camp and without causing pollution of nearby watercourses.
12. The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labor camp and/or base camp.

13. The Contractor shall not allow the use of fuel wood for cooking or heating in any labor camp or base camp and provide alternate facilities using other fuels.

14. The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Engineer and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.

15. The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.

16. The contractor shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the Works.

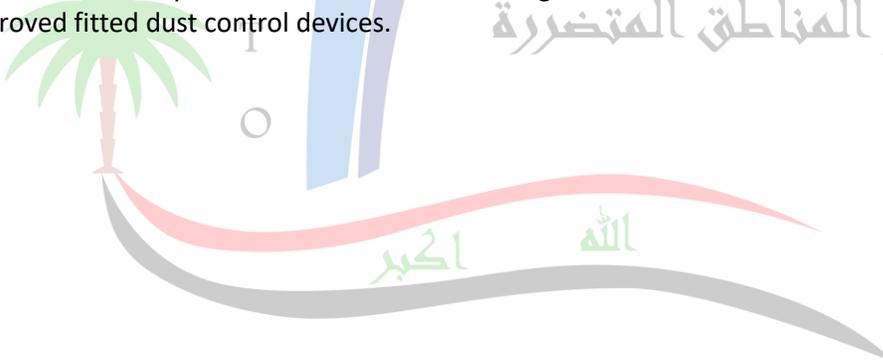
IV. Quarries and Borrow Pits

17. Operation of a new borrow area, on land, in a river, or in an existing area, shall be subject to prior approval of the Engineer, and the operation shall cease if so instructed by the Engineer. Borrow pits shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or carry too much fine material downstream.

18. The Contractor shall ensure that all borrow pits used are left in a trim and tidy condition with stable side slopes, and are drained ensuring that no stagnant water bodies are created which could breed mosquitoes.

19. Rock or gravel taken from a river shall be far enough removed to limit the depth of material removed to one-tenth of the width of the river at any one location, and not to disrupt the river flow, or damage or undermine the river banks.

20. The location of crushing plants shall be subject to the approval of the Engineer, and not be close to environmentally sensitive areas or to existing residential settlements, and shall be operated with approved fitted dust control devices.



V. Earthworks

21. Earthworks shall be properly controlled, especially during the rainy season.
22. The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible disturbance to areas outside the prescribed limits of the work.
23. The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.
24. In order to protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.
25. Any excavated cut or unsuitable material shall be disposed of in designated tipping areas as agreed to by the Engineer.
26. Tips should not be located where they can cause future slides, interfere with agricultural land or any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

VI. Historical and Archeological Sites

27. If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:
 - a. Stop the construction activities in the area of the chance find.
 - b. Delineate the discovered site or area.
 - c. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over.
 - d. Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (less than 24 hours).
 - e. Contact the responsible local authorities and the Ministry of Culture who would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, including the aesthetic, historic, scientific or research, social and economic values.
 - f. Ensure that decisions on how to handle the finding be taken by the responsible authorities and the Ministry of Culture. This could include changes in the layout (such as when the finding is an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage.
 - g. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture; and
 - h. Construction work will resume only after authorization is given by the responsible local authorities and the Ministry of Culture concerning the safeguard of the heritage.

VII. Disposal of Construction and Vehicle Waste

28. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not

impact natural drainage courses; and (c) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.

29. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.

30. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.

31. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.

32. Vehicle/machinery and equipment operations, maintenance and refueling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An oil interceptor will be provided for wash down and refueling areas. Fuel storage shall be located in proper bounded areas.

33. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300 meters from all cross drainage structures and important water bodies or as directed by the Engineer.



Attachment 6:

Guidelines for Land and Asset Acquisition, Entitlements and Compensation

I. Objectives

1. Resettlement and land acquisition will be kept to a minimum, and will be carried out in accordance with these guidelines. Subproject proposals that would require demolishing houses or acquiring productive land should be carefully reviewed to minimize or avoid their impacts through alternative alignments. Proposals that require more than minor expansion along rights of way should be carefully reviewed. No land or asset acquisition may take place outside of these guidelines. A format for Land Acquisition Assessment Data Sheet is attached as Attachment 3(i).
2. These guidelines provide principles and instructions to compensate negatively affected persons to ensure that they will be assisted to improve, or at least to restore, their living standards, income earning or production capacity to pre-project levels regardless of their land tenure status.

II. Categorization

3. Based on the number of persons that may be affected by the project, Project Affected People (PAPs) and the magnitude of impacts, projects will be categorized as follows:
 - (a) Projects that will affect more than 200 PAPs due to land acquisition and/or physical relocation and where a full RAP must be produced. If the RAP cannot be prepared prior to project appraisal, a waiver can be provided by the World Bank Managing Director (MD) in consultation with the Resettlement Committee. In such cases, the TT should agree with the Borrower on a timetable for preparation of the RAP.
 - (b) Projects that will affect less than 200 persons require the following documentation: (i) a land acquisition assessment, (ii) the minutes or record of consultations which assess the compensation claimed and agreement reached, and (iii) a record of the receipt of the compensation, or voluntary donation, by those affected (see below).
 - (c) Projects that are not expected to have any land acquisition or any other significant adverse social impacts; on the contrary, significant positive social impact and improved livelihoods are expected from such interventions.

III. Eligibility

4. PAPs are identified as persons whose livelihood is directly affected by the project due to acquisition of the land owned or used by them. PAPs deemed eligible for compensation are:
 - (a) those who have formal legal rights to land, water resources or structures/buildings, including recognized customary and traditional rights;
 - (b) those who do not have such formal legal rights but have a claim to usufruct rights rooted in customary law; and
 - (c) those whose claim to land and water resources or building/structures do not fall within (a) and (b) above, are eligible to resettlement assistance to restore their livelihood.

IV. Compensation Principles

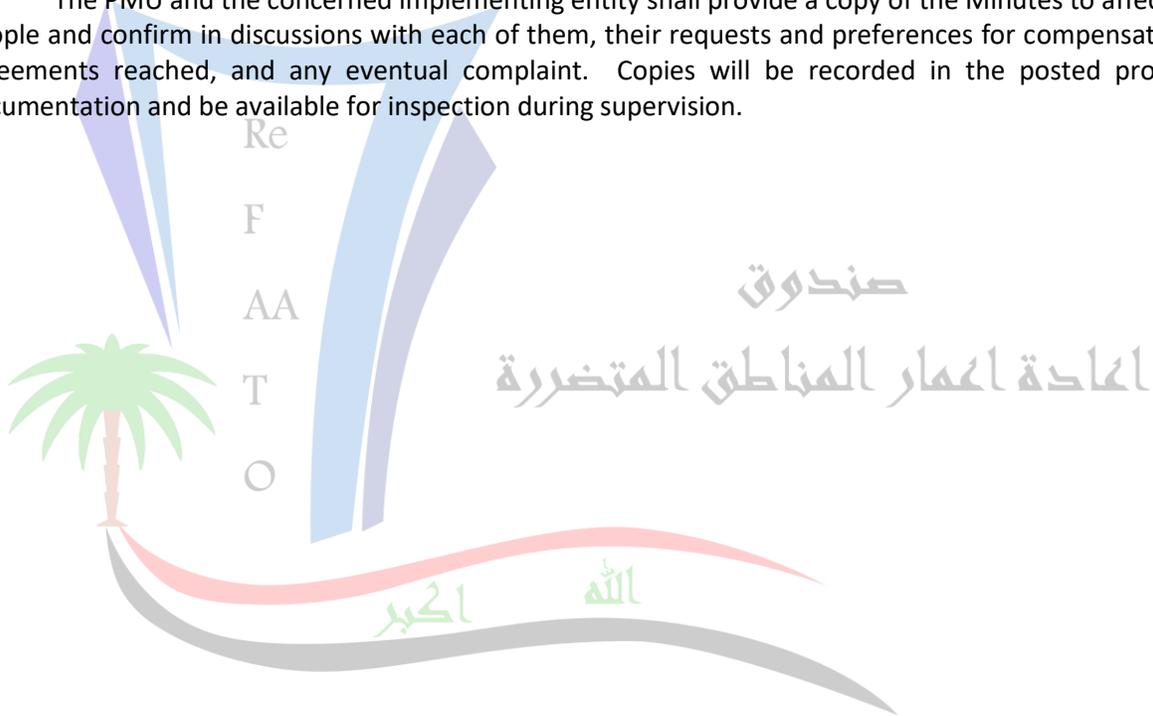
5. The project implementation agencies will ensure timely provision of the following means of compensation to affected peoples:
 - (a) Project affected peoples losing access to a portion of their land or other productive assets with the remaining assets being economically viable are entitled to compensation at a replacement cost for that portion of land or assets lost to them. Compensation for the lost assets will be made according to the following principles:
 - (i) replacement land with an equally productive plot, cash or other equivalent productive assets;
 - (ii) materials and assistance to fully replace solid structures that will be demolished;
 - (iii) replacement of damaged or lost crops and trees, at market value;
 - (iv) other acceptable in-kind compensation;

- (v) in case of cash compensation, the delivery of compensation should be made in public, i.e., at the Community Meeting; and
 - (vi) in case of physical relocation, provision of civic infrastructure at the resettlement sites.
- (b) Project affected peoples losing access to a portion of their land or other economic assets rendering the remainder economically non-viable will have the options of compensation for the entire asset by provision of alternative land, cash or equivalent productive asset, according to the principles in (a) i-iv above.

V. Consultation Process

6. The PMU and the concerned implementing entity will ensure that all occupants of land and owners of assets located in a proposed subproject area are consulted. Community meetings will be held in each affected district and village to inform the local population of their rights to compensation and options available in accordance with these Guidelines. The Minutes of the community meetings shall reflect the discussions held; agreements reached, and include details of the agreement, based on the format provided in Attachment 3(ii).

7. The PMU and the concerned implementing entity shall provide a copy of the Minutes to affected people and confirm in discussions with each of them, their requests and preferences for compensation, agreements reached, and any eventual complaint. Copies will be recorded in the posted project documentation and be available for inspection during supervision.



VI. Subproject Approval

8. In the event that a subproject involves acquisition against compensation, the PMU through the concerned implementing entity shall:

- (a) not approve the subproject unless satisfactory compensation has been agreed between the affected person and the local community; and
- (b) not allow works to start until the compensation has been delivered in a satisfactory manner to the affected persons.

VII. Complaints and Grievances

9. Initially, all complaints should be registered by the PMU and the concerned implementing entity as the case maybe, which shall establish a register of resettlement/compensation related grievances and disputes mechanism. The existence and conditions of access to this register (where, when, how) shall be widely disseminated within the community/town as part of the consultation undertaken for the sub-project in general. A committee of knowledgeable persons, experienced in the subject area, shall be constituted at a local level as a Committee to handle first instance dispute/grievances. This group of mediators attempting amicable mediation/litigation in first instance will consist of the following members: (i) Head of District; (ii) Legal advisor; (iii) Local Representative within the elected Council; (iv) Head of Community Based Organization; and (v) Community leaders. This mediation committee will be set up at local level by the implementation agency on an "as-needed" (i.e. it will be established when a dispute arises in a given community).

10. When a grievance/dispute is recorded as per above-mentioned registration procedures, the mediation committee will be established, and mediation meetings will be organized with interested parties. Minutes of meetings will be recorded. The existence of this first instance mechanism will be widely disseminated to the affected people as part of the consultation undertaken for the sub-project in general. It is important that these mediation committees be set up as soon as RAP preparation starts. Disputes documented e.g. through socio-economic surveys should be dealt with by appropriate mediation mechanisms which must be available to cater for claims, disputes and grievances at this early stage. A template form for claims should be developed and these forms be collated on a quarterly basis into a database held at project level.

VIII. Verification

11. The Mediation Meeting Minutes, including agreements of compensation and evidence of compensation made shall be provided to the Municipality/district, to the supervising engineers, who will maintain a record hereof, and to auditors and socio-economic monitors when they undertake reviews and post-project assessment. This process shall be specified in all relevant project documents, including details of the relevant authority for complaints at the municipal/district or implementing agency level.

Annex 2: Project Description

The individual EODP components are as follows:

Component 1: Restoring Electricity Infrastructure and Connectivity (USD 75 million)

Iraq's electricity sector has suffered from more than a decade of conflict and sanctions that have left its institutions weakened and have resulted in under-investment and chronic deterioration in service delivery and infrastructure. Although Iraq's electricity sector has made progress in restoring and increasing power generation capacity (20GW nameplate capacity as of 2014), the transmission and distribution sub-sectors continue to face serious issues including significant (over 40 percent) losses, and hampering the provision of reliable and adequate supply to households and the private sector. Inadequate electricity is seen by Iraqis today as a top concern in comparison with other matters such as national security, health care, unemployment, crime, and high prices. According to the Iraq Investment Climate Assessment (ICA) Assessment, 73 percent of the firms operating in Iraq identified the lack of sufficient electricity supply as a "very severe obstacle" to productivity, and the most significant issue affecting private sector development and job creation.

Prior to the ISIS conflict, the MoE developed investment plans totaling around USD 21 billion between 2011 and 2020 in response to an urgent need for investment in Iraq's transmission and distribution sub-sectors. The MoE has also requested the Bank's support in developing a roadmap for reform of the electricity sector and preparing an electricity project planned for FY2017. The investment plans will be revisited for relevance considering the developments during the period from 2011 to date. The new electricity project aims to finance distribution infrastructure that will reduce losses, and increase levels and reliability of electricity supply in the central and south regions of Iraq. In addition, it will also support the reform of Iraq's electricity sector institutions and operations to improve the sector's overall performance. This Project has deliberately adopted a basic, scalable design, so that more comprehensive infrastructure rehabilitation could be included within the scope of activities.

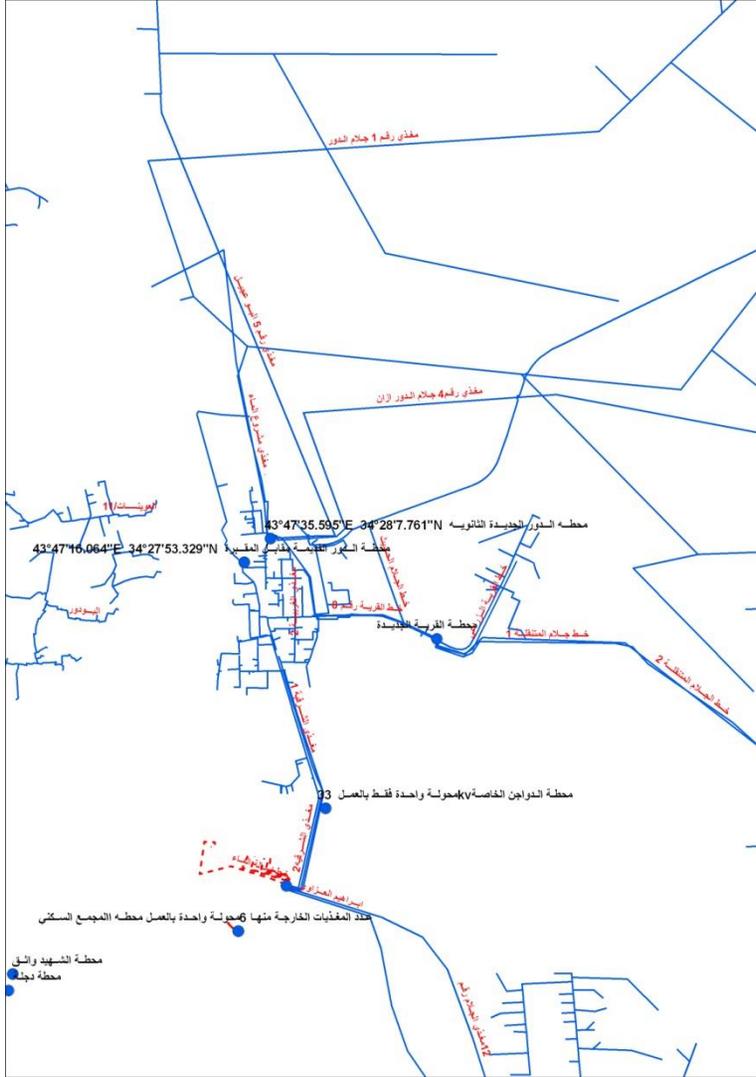
During the ISIS crisis, there are instances of electricity supply being limited to 10-12 hours per day. According to a recent World Bank Report "Poverty, Inclusion and Welfare in Iraq 2007–2012", inadequate electricity is identified by nearly two-thirds of respondents as a priority concern. High/medium/low voltage transmission and distribution infrastructure has been damaged or remained partially dysfunctional, and the sector issues and constraints have been aggravated. Upon the liberation of the seven cities, the MoE (implementing agency of the Electricity Component) has assessed damage and urgent investment needs in the transmission and distribution networks and preliminarily identified urgent repair and equipment needs to restore the electricity supply.

Starting in Year 1 of Project implementation, this Project will finance the acquisition of equipment for the repair and reconstruction of damaged electricity distribution and transmission infrastructure in the selected municipal areas (Electricity Subprojects). Specifically, it will finance the supply of goods/materials such as substations, transformers, feeders, connectors, wires, cables, metering, etc. Furthermore, and through technical assistance, it will finance the supervision of the implementation of Electricity Subprojects.

IRAQ: Emergency Operation for Development Project

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country	IRAQ			
Project title	Emergency Operation for Development Project (EODP)			
Scope of project and activity	<p>EODP's Project Development Objective (PDO) is to support the Republic of Iraq in the reconstruction of damaged infrastructure and housing and restoration of public services delivery in targeted municipal areas. The project activities will involve civil works of varying scale to reconstruct and restore what was damaged during combat with, and occupation by ISIL, under strict adherence to pre-existing footprints of buildings, structures and linear infrastructure.</p> <p>The majority of interventions is expected in urbanized areas, which currently are characterized by very low environmental baseline conditions, mainly due to acts of war and related deterioration and negligence (such as: rubble and UXO presence, unregulated waste disposal, breakdown of environmental services, and presence of contaminations from oil / fuels and ammunitions). Some larger reconstruction sub-projects, such as bridges, will be located at major rivers and within areas with slightly higher environmental sensitivities, but again within existing transport corridors and on existing footprints.</p>			
Institutional arrangements (Name and contacts)	WB	Project Management It will be determined soon	Local Counterpart and/or Recipient It will be determined soon	
Implementation arrangements (Name and contacts)	Safeguard Supervision It will be determined soon	Local Counterpart Supervision It will be determined soon	Local Inspectorate Supervision It will be determined soon	Contactor It will be determined soon
SITE DESCRIPTION				
Name of site	Ad Dawr substation			

<p>Describe site location</p>	<p>The distribution substation is located in Ad Dawr city; The city is located on the banks of the Tigris River and consists mostly of farmland and orchards. City characterized by high population density</p> <p>The city is divided into two areas: the spate Plains region, which includes the river side which is about groves and agricultural areas. Rain-fed and the region, which lies east of flood plain area towards the Hamrin Heights. This geographical configuration to settle in this area has helped Ad Dawr city to represents an important link between northern, central and southern Iraq sites.</p> 	<p>Site Map [X] Y [] N See Annex 2</p> <p>The substation coordinations are</p> <p>43 47 16.064 E 34 27 53.329 N</p>
-------------------------------	--	--

صندوق
العمادة اعمار المناطق الم

	Picture of the substation shows the feeders and transmission lines
Who owns the land?	The MOE owns the land The planned activities under the project will only concern the repairs and rehabilitation of the existing substation and transmission lines, thus the project will not entail permanent or temporary acquisition of new land
Description of geographic, physical, biological, geological, hydrographic and socio-economic context	The distribution substation is located in Ad Dawr City. Details on the geographic, physical, and biological conditions of the project area are listed in Annex 3.
Locations and distance for material sourcing, especially aggregates, water, stones?	Ad Dawr substation is located in urban area In Ad Dawr city .Materials for the reconstructions works, such as cement, aggregates and stones will be sourced from existing quarries. The material requirements are estimated to be minor and sourcing will not require new quarrying.
LEGISLATION	
Identify national & local legislation & permits that apply to project activity	The project will follow Iraqi national laws (for acquisition and environmental) see Annex 1
PUBLIC CONSULTATION	
Identify when / where the public consultation process took place	The Emergency Operation for Development Project (EODP) is classified as Category B according to the WB OP 4.01. Consequently, the preparation of the ESMP for the Subproject requires at least one public consultation meeting. The objectives of consultation and participation process are to inform, consult and engage the local community and other local stakeholders about the Subproject. Stakeholder consultations have been carried out in September, 2015 in Saladin governorate . The purpose of the consultations sessions is to present the overall project design; explain its broader benefits at the national level; and outline key anticipated adverse environmental and social impacts expected to result from project activities so that the stakeholders gain good understand of the project, its activities and potential impacts. Specific objectives of the consultations sessions were to: <ul style="list-style-type: none"> • Inform the stakeholders and the public about the Project. • Identify the main project stakeholders and their concerns. • Provide the opportunity for the identified stakeholders to participate in the process of scoping significant environmental and social impacts.

- Identify and comment on the key environmental impacts/concerns.
- Ensuring that appropriate approach and adequate focus are adopted during the ESMP.

The participants in the consultation process included local municipal officials, community leaders, NGOs, agricultural CBOs and union representatives, services and utilities providers, and academia.

There was a General acceptance from people to the project and they all agreed that the project will give the city a great benefit besides these people needs to return to their houses and their lives and they can't do it unless they have the main life sources such as a reliable electricity and drinking water (water pumps needs electricity source to work properly).

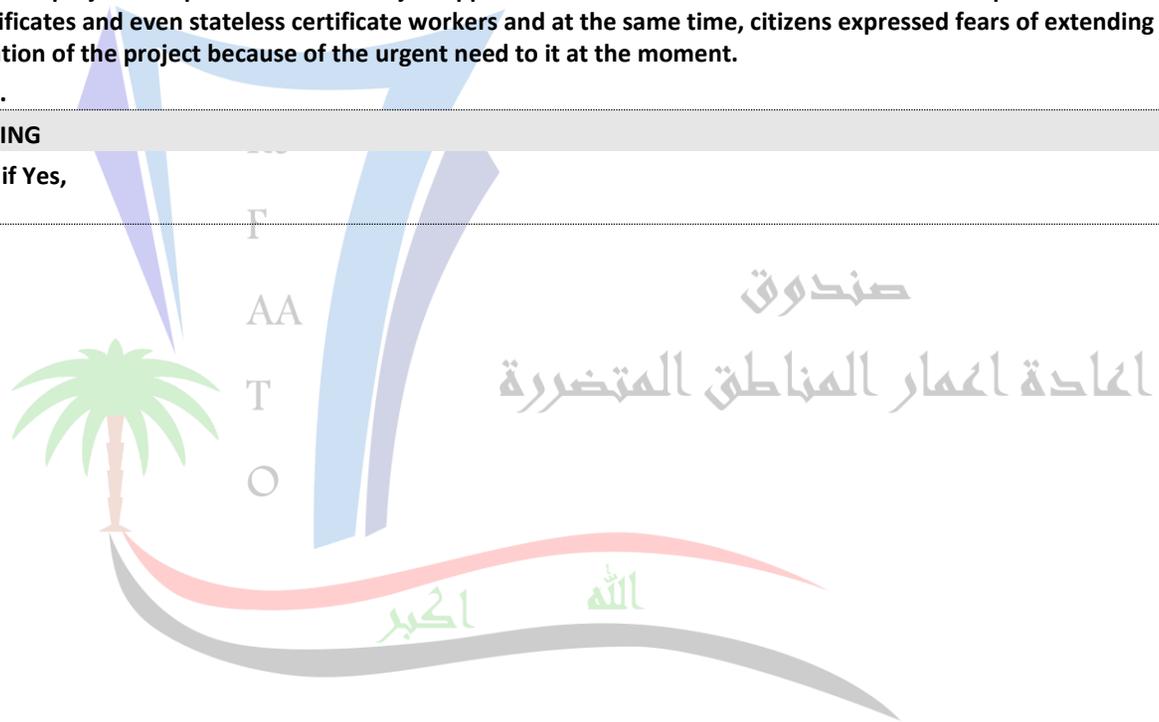
In addition, this project will provide them with job opportunities for local citizens as the business implementation needs to a local staff of various certificates and even stateless certificate workers and at the same time, citizens expressed fears of extending the time period for the implementation of the project because of the urgent need to it at the moment.

See annex 6.

INSTITUTIONAL CAPACITY BUILDING

Will there be any capacity building?

N or Y if Yes,



PART B: SAFEGUARDS SCREENING AND TRIGGERS

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS			
	Activity/ Typology	Status	Triggered Actions
Will the site activity include/involve any of the following??	1. Reconstruction of linear infrastructure, such as roads or transmission lines	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section A below
	2. Reconstruction of private homes, housing estates, public buildings, or facilities and installations for public services (e.g. substations, water treatment plants, pumping stations or similar)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section A below
	3. Reconstruction of / impacts on surface drainage system	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section B below
	4. Activities in Historic building(s) and districts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section C below
	5. Required acquisition of land ¹⁰ or temporary / permanent impacts on livelihoods	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section D below
	6. Handling or presence of hazardous or toxic materials ¹¹	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section E below
	7. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section F below
	8. Risk of unexploded ordinance (UXO)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section G below
	9. Traffic and Pedestrian Safety	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section H below

¹⁰ Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

¹¹ Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
O. General Conditions	Notification and Worker Safety	<ul style="list-style-type: none"> a) The local construction and environment inspectorates and communities have been notified of upcoming activities b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) c) All legally required permits have been acquired for construction and/or rehabilitation d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Reconstruction Activities	Air Quality	<ul style="list-style-type: none"> (a) During excavation works dust control measures shall be employed, e.g. by spraying and moistening the ground (b) Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling or breaking of pavement and foundations dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (side walks, roads) shall be kept free of soil and debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) All machinery will comply with Polish emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites
	Noise	<ul style="list-style-type: none"> (a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	<ul style="list-style-type: none"> (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in canalization and nearby streams and rivers
	Waste management	<ul style="list-style-type: none"> (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from excavation, demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible Contractor will reuse and recycle appropriate and viable materials (except when containing asbestos)
B. Impacts on surface drainage system	Water Quality	<ul style="list-style-type: none"> (a) Drainage / canalization systems will be reconstructed according to good engineering practice, including appropriate dimensions, sedimentation basins, and connection to treatment facilities as required (b) Storm water drainage systems will be designed and constructed as not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes; including during construction activities (c) There will be procedures in place for prevention of and rapid response to accidental spills of fuels, lubricants and other toxic or noxious substances, and for their recovery and appropriate disposal (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers; the Contractor will obtain all necessary licenses and permits for water extraction and regulated discharge into the public wastewater system.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
C. Historic building(s)	Cultural Heritage	(a) If construction works take place close to a designated historic structure, or are located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. (b) It shall be ensured that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.
D. Acquisition of land	Land Acquisition Plan/Framework	(c) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank’s Task Team Leader shall be immediately consulted. (d) The approved Resettlement Action Plan/ Policy Framework (if required by the sub-project) will be implemented
E. Toxic materials	Asbestos management	(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals, wearing appropriate PPE is mandatory. (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. (f) The removed asbestos will not be reused
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used
F. Affected forests, wetlands and/or protected areas	Ecosystem protection	(a) Any recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited; all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided (c) Adjacent wetlands and streams shall be protected from site run-off and siltation with appropriate measures (d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
G. Risk of unexploded ordinance (UXO)	Hazard to human health and safety	(a) Before start of any excavation works the Contractor will verify that the construction area has been checked and cleared regarding UXO by the appropriate authorities; the declaration of the area as “safe” will be obtained in writing
H Traffic and pedestrian safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(b) In compliance with national regulations the Contractor will insure that the construction site is properly secured and construction related traffic regulated. (c) The site will be clearly visible and the public warned of all potential hazards by signposting and barriers / fencing (d) Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. (e) Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement (f) If required, active traffic management by trained and visible staff at the site for safe passage for the public (g) Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction

PART D: MONITORING PLAN

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity preparation	1.site access traffic management 2.availability of waste disposal facilities 3.hazardous waste inventory (PCB containing transformer oils?) 4.construction material quality control (eg. paints / solvents)	1.at the site 2.at the site 3.in site vicinity on site 4.Contractor's store / building yard	1.check if design and project planning foresee diligent procedures 2.visual / analytical if in doubt 3.visual / research in toxic materials databases	1.before launch of construction 2.before start of rehabilitation works 3.before approval to use materials	1.safety of general public, 2.timely detection of waste disposal bottlenecks 3.public and workplace health and safety	marginal, within budget marginal, within budget; (Prepare special account for analyses at PMU?)	Contractor, Engineer
During activity supervision	dust generation noise emissions waste and wastewater types, quality and volumes surface drainage soundness	on site and in immediate neighborhood, close to potential impacted residents at discharge points or in storage facilities	visual consultation of locals visual, analytical if suspicious count of waste transports off site, check flow rates and runoff routes for wastewater	daily daily daily / continuous daily / continuous	avoidance of public nuisance avoidance of negative impacts on ground/ surface waters ensuring proper waste management and disposal	marginal, within budget	Contractor, Engineer

For procedures and HSE guide lines see annex 4&5



Component 2: Restoring Municipal Waste, Water and Sanitation Services (USD 60 million)

Iraq is estimated to produce 31,000 tons of solid waste every day with per capita waste generation exceeding 1.4 kg per person per day. This rapid increase in waste generation is putting tremendous strain on Iraqi waste handling infrastructure which has deteriorated significantly following decades of conflict and mismanagement. In the absence of modern and efficient waste handling and disposal infrastructure, most waste is disposed in unregulated landfills across Iraq, with little or no concern for either human health or the environment. Iraqi landfills are characterized by spontaneous fires, groundwater contamination, surface water pollution and large-scale greenhouse gas emissions. Additionally, the management of rubble and debris resulting from armed conflict and acts of war needs attention as part of the reconstruction efforts. Special attention also needs to be given to contamination by hazardous substances that could result from war-related damages such as petroleum products and a spectrum of chemicals from small industries and storage facilities which could affect soils, rubble/debris, as well as water and groundwater in conflict-affected areas.

A National Solid Waste Management Plan (NSWMP) for Iraq was developed in 2007 and contains recommendations to build 33 environmentally engineered landfills with the capacity of 600 million cubic meters serving all of the 18 governorates in Iraq by 2027. In addition to constructing landfills the plan also focuses on the collection and transportation, and on developing systems to maximize recycling and reuse. Broad education measures would complement investments in waste management infrastructure supporting the understanding of and participation in waste management in the identified municipal areas of both communities and individuals. This Project will support quick repairs as well as technical assistance to improve the solid waste management in the Project Area as described below.

In Iraq access to improved water supply and sanitation is relatively high, but the quality of service is often low. In 2012, 94 percent of the population had access to safe sanitation. In the same year, 87 percent of the population had access to piped water supply in their houses. The quality of services provided, however, is perceived to be low. Many households experienced regular and lengthy service interruptions in 2012 and beyond due to the lack of maintenance and interruptions in water supply. Apart from the lack of reliable water supply, the water quality provided through the public network is also poor. Further, while almost all households have universal access to sanitation facilities, collection of wastewater is not equally developed with only 28 percent of the population having access to a sanitation facility connected to a piped sewerage network. Conflict related damage to water and sanitation services has further adversely impacted service delivery.

This Project will finance the restoration of water, wastewater and solid waste services through the repair, reconstruction and rehabilitation of damaged infrastructure in the selected municipalities. Starting in Year 1 of Project implementation, the Project will finance the rapid repair, rehabilitation, and reconstruction of damaged water, wastewater, and solid waste services infrastructure in selected areas (Water and Sanitation Subprojects, such as water intake, transmission lines, treatment plants, pumping stations, storage tanks, distribution networks, house connections, sewers and trunk lines, wastewater treatment plants, storm water drains). It will also finance activities to be implemented during Years 2 - 5 of the Project such as the: (i) carrying out of an additional water and sanitation damage and needs assessment and identification of further Water and Sanitation Subprojects; (ii) preparation of detailed plans and designs for Water and Sanitation Subprojects; and (iii) provision of technical assistance for the supervision and implementation of Water and Sanitation Subprojects.

Component 3: Restoring Transport Infrastructure and Developing a Housing Reconstruction Subsidy Scheme (USD 140 million)

Transport infrastructure (for all modes, including roads, railways, ports and airports) is key to the economic development of Iraq. However, most transport infrastructure in the affected region suffered destruction and damage as a result of recent military operations, sabotage and vandalism during the current crisis. As a result of the full or partial destruction of structures, road sections and airports, the impact to transport operations has been significant. This has led to the continued closure of a number of road and rail section for normal traffic, except for the purposes of military operations. While international transportation has been limited due to ongoing conflict, economic sanctions and safety issues, domestic air transportation has also been limited to a few routes. Negligence and lack of maintenance has further deteriorated the infrastructure. Continued use of the transport network by the military and for refugee transportation continues to negatively impact on the transport infrastructure. Additionally, much of this infrastructure suffered extensive damage and destruction during the previous conflict. Some were in the process of rehabilitation but the current situation exacerbated the challenge. The lack of a sectoral strategy, chronic underfunding, lack of institutional capacity, and a complex conflict-affected environment compound the problem. At this juncture, the country faces enormous challenges in reconstructing its transportation networks and facilities, as well as re-establishing key transport services.

This Project will finance the improvement of road assets by repairing and rehabilitating of highly damaged segments of the primary road network and currently used detour routes in and around selected municipalities, and repairing and reconstructing critical bridges and major culverts (Transport Infrastructure Subprojects). The Project will include (i) carrying out of a transport damage and needs assessment and identification of Transport Infrastructure Subprojects; (ii) preparation of detailed plans and designs for Transport Infrastructure Subprojects; and (iii) provision of technical assistance for the supervision and implementation of Transport Infrastructure Subprojects. This Project will also help restore the functional capacity of these road assets, i.e. to restore normal and safe traffic operations. In addition, the proposed civil works on roads and bridges would generate local employment opportunities. The works will be conducted in coordination with rubble removal and will include road structure repairs (mainly pavement, bridge decks, abutments and poles), but also shoulder stabilization, approaches to bridges, road safety signalization and equipment, and drainage repairs. Year 1 of the Project will focus on quick repairs, while Years 2 – 5 will focus on rehabilitation and reconstruction of the severely damaged roads segments and bridges.

In the Housing Sector, successive years of conflict have limited Gol's ability to promote an enabling environment for the provision of affordable housing by the private sector and for a greater role for financial services in the construction sector. Iraq suffered from a chronic housing shortage coupled with low quality housing stock even before the latest ISIS conflict. Recent estimates indicate that almost 30-40 percent of the population lives in very poor housing conditions and that at least 10 percent of the nation's total dwellings are overcrowded. Further, the absence of a market-based housing finance system makes it difficult for most Iraqis to afford adequate housing with housing much less affordable for Iraqis than elsewhere in the Middle East. Against such a background, the latest conflict has severely compounded the housing crisis where a large number of housing units have been destroyed or damaged.

This Project will support the Gol in designing a Housing Reconstruction Subsidy Scheme. This will be done through the provision of technical assistance for the design of a scheme for the provision of housing reconstruction subsidies during the first two years of the Project. Such a subsidy scheme will be based on past Gol practices in similar situations and could be adopted by the Gol for all the liberated areas in Iraq. The scheme will be enhanced taking into account efficiency and effectiveness in addressing the needs of tenants, informal settlers and mortgaged assets. To achieve this, a housing damage assessment in the seven selected municipalities will be carried out through technical assistance to Ministry of Construction and Housing (MoCH).



Component 4: Restoring Health Services (USD 42 million)

Due to the prolonged conflict, Iraq's health sector is under strain. In the last few decades, Iraq's health care capacity has been severely undermined by the effects of conflict, international sanctions, sectarian violence and political instability. Furthermore, the growing inflow of Syrian refugees and internally displaced Iraqis in the 2012-2014 period has challenged the ability of the government to respond to the growing health needs of the population. Once considered the best in the region, Iraq's health indicators have been deteriorating and according to World Bank 2013 data, maternal mortality in Iraq is among the highest in the region at 67/1,000 live births. Similarly, Iraq is above the regional rates for under five mortality (34/1,000 compared to 26/1000) and infant mortality (28/1,000 compared to 21/1,000). Immunization rates for Measles (63 percent), Polio (70 percent), and DPT (68 percent) are also below the regional averages at 88 percent, 90 percent, and 89 percent respectively.

The large influx of IDPs led to a significant increase in demand for health services and a rise in communicable diseases. According to WHO latest data, acute respiratory infection (ARI), skin disease, and acute diarrhea (AD) remain the leading causes of morbidity reported from all camps. Other assessments indicate that basic laboratory services in health facilities in IDP camps are either nonexistent or insufficiently equipped to handle the growing demand for services. Communicable diseases, particularly water-borne infectious diseases are also affecting the Iraqi population, Cholera is endemic, with major outbreaks in many parts of the country. Hepatitis E is also reportedly endemic, with an approximately 20.3 percent prevalence rate. (WHO, 2013a).

The Ministry of Health (MoH) capacity to manage the provision of basic services has been jeopardized. The health system's physical infrastructure is suffering from severe deterioration due to destruction, neglect over time and consequences from the war, whereby most of the health infrastructure is in poor condition and is critically lacking human resources and essential equipment. Given this situation, there is an urgent need to address the resource shortages and build the resilience of the Iraqi health system to alleviate the currently declining health situation in the country.

This Project will support the improvement of essential healthcare services delivery in the selected municipalities to respond to the urgent health needs of the local population. Specifically, this Project will finance the supply of mobile hospitals, mobile clinics, medical equipment and ambulances for the selected areas. During appraisal, the MoH representative confirmed the availability of qualified human resources to administer the new equipment. Moreover, through the provision of technical assistance the Project will support carrying out of a health sector needs assessment and development of a plan of a medium- to long- term health care services master plan (see Component 5).

Component 5: Technical Assistance (USD 25 million)

Sectoral Development: This Project, through this component, will constitute a platform for the identification and [partial] preparation of a range of potential sector investment projects which would be based on a continuous strategic, medium- to long-term needs assessment carried out by the Bank and the Iraqi government over the Project implementation period. This needs assessment would go well beyond the Project's lifetime and the scope of emergency reconstruction and restoration, and identify opportunities to build on the momentum, delivery mechanisms and implementation arrangements set up under the Project. Likely sectors for medium to long term development approaches could include transport (both urban and inter-urban including railways) led by the MoCH (for housing, roads and bridges), water and waste management (Ministry of Municipalities and Public Works - MoMPW), and health (MoH).

Technical assistance: This Project will finance the following support to sectoral components on a demand driven basis, within four broad topics.

- i. The first would be the development of: (i) urban development and strategic investment master plans for selected municipalities based on intensive public consultation and awareness programs; (ii) integrated solid waste management plans and designs; (iii) railway infrastructure rehabilitation and safety improvements plans and designs; (iv) cross-governorate expressway corridors plans and designs; and (v) a pilot for the planning and design of infrastructure development at the governorate level.
- ii. The second would fall under the theme of state/citizen trust-building and promoting reconciliation in the broader Project context, with likely topics being: (i) inclusive participation by local communities, (ii) transparency of resource allocation, (iii) enacting measures to promote tolerance through community-led Projects across different social groups, (iv) using targeted media, social media and communications campaigns to disseminate information about the Project, and promote trust and solidarity, and (v) addressing local grievances through an effective redress mechanism and developing greater social accountability in service provision.
- iii. The third would relate to a broader strategy for the sustainable management of physical cultural resources. This activity will include a systematic and detailed damage assessment of damaged Physical Cultural Resources (PCR), a prioritized list of required interventions, development of a reconstruction and restoration strategy (including related standards, guidelines, knowledge and technical resources, and design codes), and design and preparation for the establishment of a fund to support the management of PCR.
- iv. The fourth would entail the carrying out of a health sector needs assessment and development of a mid- to long-term health care services master plan.

Component 6: Project Management, Sensitization and Monitoring and Evaluation (USD 8 million)

This component will cover costs associated with the management and coordination of the Project, including safeguards, procurement and financial management, community sensitization and communication, and a monitoring and evaluation (M&E) system. This will also include communication at the national and local (seven cities) levels with beneficiaries and all other stakeholders involved in the Project including line ministries, international agencies/missions, civil society and faith based organizations. It is expected that complementary, specialized, technical inputs and their logistical support will be required to execute individual Project activities and provide adequate technical guidance to the Project implementing partners. This component will also cover the cost of travel, accommodation and per diem for the Project Coordination Unit (PCU) and Project Management Teams (PMTs) participating in Bank conducted implementation support missions outside Iraq structures detailed in Section III below). Sensitization and communication work will aim at the transmission of clear and consistent messages to support the effective implementation of the Project by informing, guiding, proactively managing expectations of its beneficiaries and communities about the Project, promoting understanding and buy-into the process, as well as generating and sustaining broad stakeholder interest and buy-in. These activities will be initiated at the start of the Project and will continue throughout the Project life cycle.



Annex 3: Sample Mitigation and Monitoring Plans

The following tables should be seen as a comprehensive sample compilation of mitigation and monitoring measures that can be tailored for specific sub-project contexts. They are intended to be used in the more comprehensive type of ESMPs, that go beyond the scope of “checklist type” ESMPs.

A template for this checklist type ESMP, which is expected to be used for the majority of subprojects, is attached in **Annex 4**.



SAMPLE MITIGATION AND MANAGEMENT PLAN

Phase	Issue	Mitigating measure	Cost		Responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Design	<ul style="list-style-type: none"> • Site Screening 						
	<p>a) <i>Screening for UXO / ERW</i></p> <p>If further investigations / demining is required, refer to specialized agencies and delay construction carried out and the site declares safe.</p>	Nil	nil	Design engineer	NA	Site screening is a key decision point, as it determines much of subsequent impacts; to be specified in design contract / bid documents	
	<p>b) <i>Positive selection criteria</i></p> <p>Confirm appropriate E&S sites within urban areas, low E&S baseline conditions, and small extent / size</p>	Nil	nil	Design engineer, environmental specialist	NA		
<p>c) <i>Criteria for additional screening</i></p> <p>Carefully screen E&S baseline and site conditions, and determine appropriate E&S instrument, such as specific ESMP or ESIA+ESMP</p>	Nil	nil	Design engineer, environmental specialist	NA			
Design	<ul style="list-style-type: none"> • Impact on Livelihoods <p>screen for any impacts on peoples land, property or livelihoods due to subproject implementation</p>	Refer to RPF to determine appropriate management and mitigation measures	minimal	minimal	Client / Design Engineer	Supervision Engineer	

Phase	Issue	Mitigating measure	Cost		Responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Construction	<p>• Site Access and Preparation</p> <p>d) <i>Construction of access roads: loss of vegetation, old trees, potential aggravation of erosion, effects of noise and dust on people, livestock and wildlife</i></p>	<p>Minimize vegetation clearing, choose access with consideration of sensitive areas (parks, habitats, water-courses, wetlands, known, migration routes) and impose speed limits and restrict working hours to daytime only.</p> <p>Source materials (sand, gravel, rocks) locally to minimize transport</p>	nil	nil	Design Engineer / Contractor	Supervision Engineer / Contractor	Access roads can carry significant induced impacts due to improved access to remote areas. Site selection and routing need to be planned with E&S criteria fully considered.
	<p>e) <i>Risk of spills, loss of materials and risks to community health and safety due to road accidents</i></p>	<p>Impose strict speed limits and code of conduct, e.g. priority for cyclists, pedestrians and animals on access road; introduce punitive action for reckless driving and causing accidents. Train all drivers and machine operators in defensive and considerate driving.</p>	nil	nil	Design Engineer / Contractor	Supervision Engineer / Contractor	

Phase	Issue	Mitigating measure	Cost		Responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Construction	Material transport / storage						
	f) Cement Dust	cover truck load	minimal	minimal	Contractor / Truck operator	Contractor / Truck operator	To be included into bid documents in the technical specifications for the realization of works
	a) Stones Dust	wet or cover truck load	minimal	minimal	Contractor / Truck operator	Contractor / Truck operator	
	b) Sand and gravel Dust	wet or cover truck load	minimal	minimal	Contractor / Truck operator	Contractor / Truck operator	
g) Storage of materials at construction site could cause contamination of soil and surface / groundwater by windblown dust, spills during handling, poor waste management practices and accidents	store materials in stable and secure laydown areas, which are protected from rain, storm-water runoff and wind, and clearly marked to avoid ingressions from animals, people and machinery	minimal	minimal	Supervision Engineer / Contractor	Supervision Engineer / Contractor		
Construction	• Execution of Works						
	h) Stone quarries dust, workers health and safety, ecosystem disturbance	Prefer (i) existing stone quarries if close to construction site or (ii) source stones at dam site (foundation construction) or in the future reservoir area	nil	nil	Design Engineer / Contractor	Supervision Engineer / Contractor	Identify win-win situations in terms of economy and environmental performance: sources close to dam and in reservoir area minimize transport, thus saving cost and emissions, and increase reservoir capacity.
	i) Sand and gravel borrow pits disturbance of river bed, water quality, ecosystem disturbance	source sand at dam site (foundation construction) or in the future reservoir area	nil	nil	Design Engineer / Contractor	Supervision Engineer / Contractor	

Phase	Issue	Mitigating measure	Cost		Responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Construction	<ul style="list-style-type: none"> • Construction site 						
	a) <i>Noise disturbance to local communities and workers</i>	limit activities to daylight working hours (not between 8 p.m. and 7 a.m. or as agreed with public and authorities);	minimal	minimal	Construction Contractor	Construction Contractor	all these provisions to be specified in bid documents - Technical Specifications - for realization of works
	b) <i>Air Pollution</i>	water construction site and material storage sites, maintain machinery, avoid idling, no waste burning	minimal	minimal	Construction Contractor	Construction Contractor	
	c) <i>Vibrations resulting from equipment work</i>	limit work activities to daylight working hours (not between 8 p.m. and 7 a.m. or as agreed with public and authorities)	nil	nil	Construction Contractor	Construction Contractor	
	d) <i>Traffic disruption during construction activity</i>	especially at turnoff from main roads install warning signs for slow vehicles	minimal	minimal	Construction Contractor	Construction Contractor	
g) <i>Water and soil pollution from improper material storage, management and usage</i>	Organize and cover material storage areas; isolate concrete, and other works from watercourse by using scaled formwork; isolate wash down areas of concrete trucks/mixers and other equipment from watercourse by selecting areas are not draining directly or indirectly into watercourse; treat water to remove solids.	minimal	minimal	Construction Contractor	Construction Contractor	Impacts on surface water and groundwater can be minimized or entirely avoided by selecting dry season as time window for main construction activities	

Phase	Issue	Mitigating measure	Cost		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
	<i>h) Water and soil pollution from improper disposal of waste materials</i>	dispose waste material at appropriate location protected from washing out, such as sufficiently deep pit that is covered with impermeable material after construction finishes; take all noxious / toxic substances (e.g. spent engine oil) off site for disposal in licensed facility	minimal	minimal	Construction Contractor	Construction Contractor	
	<i>i) Potential contamination of soil and water from improper maintenance and fueling of equipment</i>	proper handling of lubricants, fuel and solvents by secured storage; ensure proper loading of fuel and maintenance of equipment; collect all waste and dispose to permitted waste recovery facility	minimal	minimal	Construction Contractor	Construction Contractor	
	<i>j) Destruction of crops, trees, meadows, etc.</i>	ensure control of working zone and land acquisition; compensate damage	j) NA	depends on quantity of damage	Construction Contractor; Client	a) Construction Contractor; Client	can be entirely avoided if construction area diligently planned and located
	<i>k) Workers safety</i>	provide workers with safety instructions and protective equipment (glasses, masks, helmets, masks, boots, etc); safe organization of bypassing people & livestock	k)minimal	k)minimal	a) Construction Contractor	b) Construction Contractor	

Phase	Issue	Mitigating measure	Cost		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Operation	<ul style="list-style-type: none"> • Hydrological Impacts a) <i>Modification of flow pattern and sediment transport, e.g. by works in river beds, sheet piling etc.</i> b) <i>Erosion of river banks, protection works or bridge abutments, resulting in damage and/or failure</i> 	<p>Minimize and restricted to immediate construction period; ensure prompt removal of any obstacles to water courses after completion of works</p> <p>Ensure engineering and environmental due diligence, including hydrological and hydraulic studies being conducted and integrated into reconstruction works design for maximum sustainability; conduct regular technical inspections of work sites and provide “hotline” for riarians to report damage and incidents.</p>	nil	nil	NA	NA	Should be addressed in E&S baseline studies and assessments, especially on hydrology and hydrography, local geology and sediment transport as part of design. Part of the TA package shall be an operation and maintenance plan with a clearly assigned institutional responsibility for (i) regular inspections; (ii) maintenance and repairs and (iii) liaison with dam users
			nil	nil	Design Engineer	Client	

MONITORING PLAN

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Cost		Institutional responsibility	
						Install	Operate	Install	Operate
Design	site selection criteria	at all potential subproject locations	by applying environmental and engineering judgment	during the design / site identification phase	to optimize E&S performance of the selected locations	nil	nil	Design Engineer / Client	NA
Construction • Site access and preparation	sensitive routing of roads, minimization of disturbances to communities, vegetation and wildlife	access route corridors	by applying environmental, social and engineering judgment	during the design / site identification and preparation phases	to optimize E&S performance of the selected locations	nil	minimal	Design Engineer / Client	Supervision Engineer / Client
• Material supply <i>Stone quarry</i>	ESMP and community approval in place	at stone quarry	document inspection, consultation	before exploitation / works begin	E&S and H&S compliance	minimal	NA	Supervision Engineer / Contractor	Supervision Engineer / Contractor

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Cost		Institutional responsibility	
						Install	Operate	Install	Operate
<i>Sand and gravel borrow pit</i>	ESMP and community approval in place	sand and gravel borrow pits	document inspection, consultation	before exploitation / works begin	E&S and H&S (health and safety) compliance	minimal	NA	Supervision Engineer / Contractor	Supervision Engineer / Contractor
• Material transport <i>Cement</i>	truck load covered	job site	visual inspections	unannounced inspections during work	E&S and H&S compliance; traffic and community health and safety requirements; avoid traffic disruptions	NA	nil	NA	Supervision Consultant
<i>Stone</i>	truck covered wetted	transport route, or job site	supervision	unannounced inspections during work		NA	minimal	NA	Supervision Consultant
<i>Sand and gravel</i>	truck covered wetted	transport route, or job site	supervision	unannounced inspections during work		NA	minimal	NA	Supervision Consultant
<i>Traffic management</i>	hours and routes selected	transport route, job site	supervision	unannounced inspections during work		NA	minimal	NA	Supervision Consultant
• Construction works <i>Noise disturbance to human and animal population and workers</i>	noise levels; equivalent noise level, equipment	job site; nearest homes or temporary pastoralist camps	noise meter and analyzer, inspection	once for each machine and equipment when works start, and on any complaint received	E&S and H&S compliance;	NA	minimal	Supervision Consultant	Supervision Consultant

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Cost		Institutional responsibility	
						Install	Operate	Install	Operate
<i>Air pollution</i>	dust (solid particles) and smoke / fumes	at and near job site	visual inspections	during material delivery and construction	E&S and H&S compliance;	NA	minimal	Contractor	Supervision Consultant
<i>Vibrations resulting from equipment work</i>	limited time of activities	job site	supervision (instrument - FFT data collector)	during work and on complain	E&S and H&S compliance;	NA	minimal	NA	Supervision Consultant
<i>Traffic disruption during works</i>	signposting and road markings	turnoff from main road, access road corridor	visual inspection	at start of works, monthly follow up	E&S and H&S compliance;	NA	minimal	Contractor	Supervision Consultant
<i>Water and soil pollution from material storage, management and usage</i>	water and soil quality (suspended solids, oil and grease)	runoff from site, material storage areas; wash down areas of equipment	visual observation; gravity; basic mobile laboratory equipment (water analyzer);	during material delivery and construction, especially during rain, events	E&S and H&S compliance; pollution prevention; community H&S	NA	minimal	Contractor	Supervision Consultant
<i>Water and soil pollution from improper disposal of waste materials</i>	water and soil quality (suspended solids, oil and grease)	waste collection / depository site	mobile laboratory equipment (water analyzer);	in case of provisional disposal of waste at construction site and on complaint	E&S and H&S compliance; pollution prevention; community H&S	NA	minimal	Contractor	Supervision Consultant

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Cost		Institutional responsibility	
						Install	Operate	Install	Operate
<i>Potential contamination of soil and water from maintenance and fueling of equipment</i>	water and soil quality (suspended solids, oil and grease); procedures of work	job site; equipment maintenance facilities	visual observation; gravity; basic mobile laboratory equipment (water analyzer);	in case of fueling of equipment at construction site and on complaint	E&S and H&S compliance; pollution prev.; community H&S	NA	NA	Contractor	Supervision Consultant
<i>Destruction of crops, trees, meadows, etc.</i> <i>Workers safety</i>	land use / encroachment by works protective equipment (glasses, masks, helmets, boots, etc); organization of bypassing traffic	job site, access road job site	visual inspections, consultations visual inspections	during material delivery and construction unannounced inspections during work, at least weekly	social impact mitigation compliance with EHS (environment, health and safety) standards	NA	minimal	NA	Supervision Consultant
Operation <i>Erosion of bridge abutments / foundations, resulting in damage and/or failure</i>	signs of erosion, subsrosion, washout, clogging by large stones or trees	bridge abutments, river bank protection	visual inspection by hydraulics engineer	twice annually during 1 st 2 years of operation, the annually	to enter into maintenance and repair routing, for sustainability of works	NA	inspections will bear minimal cost, budget for maint. & repairs to be created	NA	Client

Annex 4: Template for a “Checklist Type” ESMP

Environmental and Social Management Plan (ESMP) Checklist for Civil Works

Project Context:

This ESMP (environmental and social management plan) is based on an environmental and social action plan (ESAP) which was developed during project design. In addition the environmental and social compliance framework is mapped out in an Environmental and Social Framework (ESMF) as the primary safeguards instrument of the project. The ESMF covers the entire scope of potential investment sub-projects (e.g. housing, road repairs, transmission lines, bridges, energy production facilities, etc.), classify them into typologies along environmental and social criteria and impacts, and for each typology defines the required specific instruments and processes. The approach for the selection of appropriate safeguards instruments is depicted in the figure below:

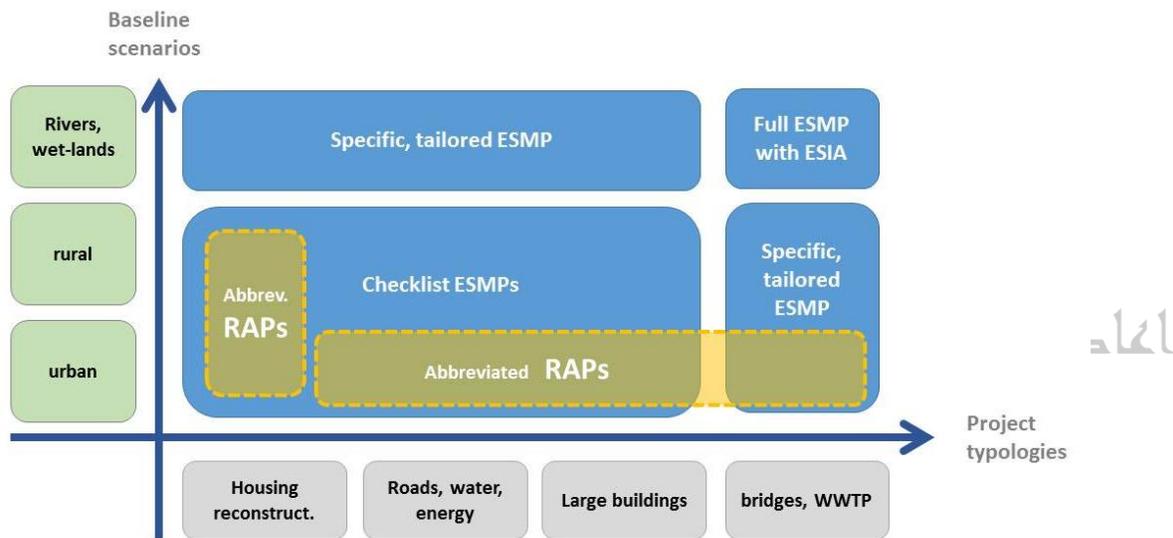


Figure 11: Screening and selection schema for E&S instruments

For the expected scope of subprojects, comprehensive ESAs will mostly not be required, as all structures and installations will have existed before, and the project would only finance their repair, reconstruction or reinstatement. The expected typologies (e.g. repair/ reconstruction of housing, roads, transmission lines, municipal infrastructure), as well as the restoration of public services would mostly require simple, checklist-type ESMPs (environmental and social management plans) that will become part of the civil works contracts, set the E&S standards and compliance mechanisms, and serve as contractual basis for supervision and enforcement of good E&S practice during the works.

General Guidelines for Using the Checklist-ESMP:

For construction projects that have minor and clearly defined environmental and social risks, such as the reconstruction of urban roads, transmission lines, public buildings or repair of housing (estates, apartments, or individual), a streamlined approach is applied to mainstream the World Bank’s environmental and social safeguards requirements, as well as general good international practice into projects.

This ESMP checklist-type format covers typical key mitigation measures to civil works contracts with small, localized impacts or of a simple, low risk nature. The format provides the key elements of an Environmental and Social Management Plan (ESMP) to meet the World Bank's standards and requirements regarding assessment of, and management for Category B projects under OP 4.01.

An additional purpose of this checklist is to offer practical, concrete and implementable guidance to Contractors and supervising Engineers, in the context of simple civil works contracts. The checklist ESMP should be completed during the final design phase and, either freestanding or in combination with any environmental documentation prepared under *national Iraqi* law and regulations, constitute an integral part of the bidding documents and eventually the works contracts. The bidders should be able to identify specific line items on E&S management in the bidding documents, and understand that they will be held accountable to compliance with the ESMP's provisions during implementation.

The checklist ESMP has the following sections:

- Part A includes a descriptive part that characterizes the project, specifies institutional and regulatory aspects, describes technical project content, outlines any urgent need for capacity building and briefly characterizes the public consultation process. This section should indicatively be up to two pages long. Attachments for additional information may be supplemented as needed.
- Part B includes a screening checklist of potential environmental and social activities and typologies, which can be checked in a simple Yes / No format. If any given activity / issue is triggered by checking "yes", a reference to the appropriate section in the table in the subsequent Part C is linked. This in turn contains clearly formulated, actionable environmental and social management and mitigation measures.
- Part C represents the actual environmental and social management plan to implement the measures and actions that follow from activities and typologies triggered under Part B. For each triggered activity or typology it contains a list of concrete, practical actionable measures and action that the Contractor needs to implement / consider during the works implementation. These measures can be easily checked, verified and reported by e.g. the supervising Engineer.
- Part D contains a simple monitoring plan to enable both the Contractor as well as authorities and the World Bank specialists to monitor due implementation of environmental management and protection measures and detect deviations and shortcomings in a timely manner. It has the same format as required for MPs produced under standard safeguards requirements for Category B projects.

Part B and C have been structured in a way to provide concrete and enforceable environmental and social measures, which are understandable to non-specialists (such as Contractor's site managers) and are easy to check and enforce. The implementation of the ESMP should be included as line item in the BoQ (bill of quantities) and priced by the bidders. Part D has been designed intentionally simple to enable monitoring of key parameters with basic means and non-specialist staff.

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country	IRAQ			
Project title	Emergency Operation for Development Project (EODP)			
Scope of sub-project and activity				
Institutional arrangements (Name and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient	
Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location				Attachment 1: Site Map []Y [] N
Who owns the land?				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context	<p style="text-align: center;">صندوق إعادة اعمار المناطق المتضررة</p>			
Locations and distance for material sourcing, especially aggregates, water, stones?				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place	<p>A portfolio of planned subprojects for the Governate of [.....], City of [.....] was disclosed to the public via [medium] and [website] during the period from [DD/MM/YYYY] to [DD/MM/YYYY], and a public hearing organized in [location] on [DD/MM/YYYY]. The minutes of the meetings are attached to this ESMP, and the key relevant concerns raised by the public were the following: (i) [concern 1], (ii) [concern 2] etc.</p>			
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building?	[X] N or []Y if Yes, Attachment 2 includes the capacity building program			

PART B: SAFEGUARDS SCREENING AND TRIGGERS

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS			
	Activity / Typology	Status	Triggered Actions
Will the site activity include/involve any of the following??	10. Reconstruction of urban, inter-urban or rural roads	[] Yes [] No	If "Yes", see Section A below
	11. Reconstruction of private homes, housing estates or public buildings	[] Yes [] No	If "Yes", see Section A below
	12. Reconstruction of / impacts on surface drainage system	[] Yes [] No	If "Yes", see Section B below
	13. Activities in Historic building(s) and districts	[] Yes [] No	If "Yes", see Section C below
	14. Required acquisition of land ¹² or temporary / permanent impacts on livelihoods	[] Yes [] No	If "Yes", see Section D below
	15. Handling or presence of hazardous or toxic materials ¹³	[] Yes [] No	If "Yes", see Section E below
	16. Impacts on forests and/or protected areas	[] Yes [] No	If "Yes", see Section F below
	17. Risk of unexploded ordinance (UXO)	[] Yes [] No	If "Yes", see Section G below
	18. Traffic and Pedestrian Safety	[] Yes [] No	If "Yes", see Section H below

Note: In the course of sub-project screening please tick all boxes on the anticipated activities that apply to the subproject, the proceed to the next section where the anticipated impacts, and required management and mitigation measures are explained.

¹² Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

¹³ Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	<p>g) The local construction and environment inspectorates and communities have been notified of upcoming activities</p> <p>h) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works)</p> <p>i) All legally required permits have been acquired for construction and/or rehabilitation</p> <p>j) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment.</p> <p>k) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots)</p> <p>l) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.</p>
A. General Rehabilitation and /or Construction Activities	Air Quality	<p>(g) During excavation works dust control measures shall be employed, e.g. by spraying and moistening the ground</p> <p>(h) Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust</p> <p>(i) During pneumatic drilling or breaking of pavement and foundations dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site</p> <p>(j) The surrounding environment (side walks, roads) shall be kept free of soil and debris to minimize dust</p> <p>(k) There will be no open burning of construction / waste material at the site</p> <p>(l) All machinery will comply with Polish emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites</p>
	Noise	<p>(c) Construction noise will be limited to restricted times agreed to in the permit</p> <p>(d) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible</p>
	Water Quality	<p>(b) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in canalization and nearby streams and rivers</p>
	Waste management	<p>(f) Waste collection and disposal pathways and sites will be identified for all major waste types expected from excavation, demolition and construction activities.</p> <p>(g) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers.</p> <p>(h) Construction waste will be collected and disposed properly by licensed collectors</p> <p>(i) The records of waste disposal will be maintained as proof for proper management as designed.</p> <p>(j) Whenever feasible Contractor will reuse and recycle appropriate and viable materials (except when containing asbestos)</p>
B. Impacts on surface drainage system	Water Quality	<p>(e) Drainage / canalization systems will be reconstructed according to good engineering practice, including appropriate dimensions, sedimentation basins, and connection to treatment facilities as required</p> <p>(f) Storm water drainage systems will be designed and constructed as not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes; including during construction activities</p> <p>(g) There will be procedures in place for prevention of and rapid response to accidental spills of fuels, lubricants and other toxic or noxious substances, and for their recovery and appropriate disposal</p> <p>(h) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies There will be no</p>

		<p>unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers; the Contractor will obtain all necessary licenses and permits for water extraction and regulated discharge into the public wastewater system.</p>
--	--	--



ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
C. Historic building(s)	Cultural Heritage	<p>(e) If construction works take place close to a designated historic structure, or are located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation.</p> <p>(f) It shall be ensured that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.</p>
D. Acquisition of land	Land Acquisition Plan/Framework	<p>(g) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank’s Task Team Leader shall be immediately consulted.</p> <p>(h) The approved Resettlement Action Plan / Policy Framework (if required by the sub-project) will be implemented</p>
E. Toxic materials	<p>Asbestos management</p> <p>Toxic /A hazardous waste management</p>	<p>(g) If asbestos is located on the project site, it shall be marked clearly as hazardous material</p> <p>(h) When possible the asbestos will be appropriately contained and sealed to minimize exposure</p> <p>(i) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust</p> <p>(j) Asbestos will be handled and disposed by skilled & experienced professionals, wearing appropriate PPE is mandatory.</p> <p>(k) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site.</p> <p>(l) The removed asbestos will not be reused</p> <p>(e) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information</p> <p>(f) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage</p> <p>(g) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility.</p> <p>(h) Paints with toxic ingredients or solvents or lead-based paints will not be used</p>
F. Affected forests, wetlands and/or protected areas	Ecosystem protection	<p>(e) Any recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities.</p> <p>(f) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided</p> <p>(g) Adjacent wetlands and streams shall be protected from site run-off and siltation with appropriate measures</p> <p>(h) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.</p>
G. Risk of unexploded ordinance (UXO)	Hazard to human health and safety	<p>(h) Before start of any excavation works the Contractor will verify that the construction area has been checked and cleared regarding UXO by the appropriate authorities; the declaration of the area as “safe” will be obtained in writing</p>
H Traffic and pedestrian safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	<p>(i) In compliance with national regulations the Contractor will insure that the construction site is properly secured and construction related traffic regulated.</p> <p>(j) The site will be clearly visible and the public warned of all potential hazards by signposting and barriers / fencing</p> <p>(k) Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes.</p>

		<p>(l) Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement</p> <p>(m) If required, active traffic management by trained and visible staff at the site for safe passage for the public</p> <p>(n) Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction</p>
--	--	---



PART D: MONITORING PLAN

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity preparation	<p>site access traffic management</p> <p>availability of waste disposal facilities</p> <p>hazardous waste inventory (asbestos)</p> <p>construction material quality control (eg. paints / solvents)</p>	<p>at the site</p> <p>at the site</p> <p>in site vicinity on site</p> <p>Contractor's store / building yard</p>	<p>check if design and project planning foresee diligent procedures</p> <p>visual / analytical if in doubt</p> <p>visual / research in toxic materials databases</p>	<p>before launch of construction</p> <p>before start of rehabilitation works before approval to use materials</p>	<p>safety of general public,</p> <p>timely detection of waste disposal bottlenecks</p> <p>public and workplace health and safety</p>	<p>marginal, within budget</p> <p>marginal, within budget; (prepare special account for analyses at PMU?)</p>	Contractor, Engineer
During activity supervision	<p>dust generation</p> <p>noise emissions</p> <p>waste and wastewater types, quality and volumes</p> <p>surface drainage soundness</p>	<p>on site and in immediate neighborhood, close to potential impacted residents</p> <p>at discharge points or in storage facilities</p>	<p>visual consultation of locals</p> <p>visual, analytical if suspicious count of waste transports off site, check flow rates and runoff routes for wastewater</p>	<p>daily</p> <p>daily</p> <p>daily / continuous</p> <p>daily / continuous</p>	<p>avoidance of public nuisance</p> <p>avoidance of negative impacts on ground/ surface waters ensuring proper waste management and disposal</p>	<p>marginal, within budget</p>	Contractor, Engineer

Annex 5: Minimum Contents of an ESIA

The EA report should include the following items (not necessarily in the order shown):

- a. Executive summary. Concisely discusses significant findings and recommended actions.
- b. Policy, legal, and administrative framework. Discusses the policy, legal, and administrative framework within which the EA is carried out. Explains the environmental requirements of any co-financiers. Identifies relevant international environmental agreements to which the country is a party.
- c. Project description. Concisely describes the proposed project and its geographic, ecological, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, power plants, water supply, housing, and raw material and product storage facilities). Indicates the need for any resettlement plan or indigenous peoples development plan (see also subparagraph (h)(v) below). Normally includes a map showing the project site and the project's area of influence.
- d. Baseline data. Assesses the dimensions of the study area and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences. Also takes into account current and proposed development activities within the project area but not directly connected to the project. Data should be relevant to decisions about project location, design, operation, or mitigatory measures. The section indicates the accuracy, reliability, and sources of the data.
- e. Environmental and social impacts. Predicts and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. Identifies mitigation measures and any residual negative impacts that cannot be mitigated. Explores opportunities for environmental enhancement. Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention.
- f. Analysis of alternatives (optional in a category B project). Systematically compares feasible alternatives to the proposed project site, technology, design, and operation - including the "without project" situation - in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. For each of the alternatives, quantifies the environmental impacts to the extent possible, and attaches economic values where feasible. States the basis for selecting the particular project design proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.
- g. Environmental management plan (EMP). Covers mitigation measures, monitoring, and institutional strengthening; see outline in OP 4.01, Annex C.
- h. Appendixes
 - (i) List of EA report preparers--individuals and organizations.
 - (ii) References--written materials, both published and unpublished, used in study preparation.
 - (iii) Record of interagency and consultation meetings, including consultations for obtaining the informed views of the affected people and local nongovernmental organizations (NGOs). The record specifies any means other than consultations (e.g., surveys) that were used to obtain the views of affected groups and local NGOs.
 - (iv) Tables presenting the relevant data referred to or summarized in the main text.
 - (v) List of associated reports (e.g. resettlement plan or indigenous peoples development plan).

Annex 6: Template for a MWMP¹⁴

Medical Waste Management Plan

1. Introduction and Project Context

Brief description of the sub-project's objective, scope and locations (description of the facilities to be established, such as mobile hospitals or health posts); relevant planned activities, which may lead to increased volumes of medical waste; description of the planned services of the hospitals / clinics and the types of medical waste expected to incur.

2. Regulatory Framework and Technical Standards

Review of DR Iraq's regulatory framework on medical waste management (MWM); of any existing technical standards, guidelines and operational procedures; and comparison to international good practice.

Description of other standards possibly used for specific waste management system, e.g. from donors' regulatory systems.

Description of current best industry practice in MWM, e.g. for collection, storage or incineration.

3. Review of current Waste Management System

Review current medical waste management and disposal procedures and practice; check compliance with domestic regulations and international good practice; identification of major gaps and deviations from regulations and good practice.

Assess / estimate of current waste volumes; number of segregated waste streams; inventory of existing equipment and facilities: e.g. collection boxes, storage facilities, transport to incinerators, incinerators available within municipalities (distance from clinic?); type and condition of incinerators; disposal of ashes, and other non-incinerated waste types (e.g. glass / plastic bottles, sharps, human tissue, food waste, non-infectious waste); (see checklist in Annex 1)

4. Demand and Gap Analysis

Assess and quantify expected additional volumes for each relevant waste type, resulting from sub-project activities; assessment of available additional capacity for each waste type; identification of capacity constraints and bottlenecks;

Assess quality and compliance of current MWM: condition, functionality of collection boxes; safety of temporary storage containers / facilities, and transport to incinerators / deposits; completeness of incineration process; odor of flue gases, prevailing wind directions, existence of sensitive receptors? (e.g. gardens, fields, residences, schools, hospital facilities, patients' wards); quality and dimensions of receptacles for incineration residue (ashes) and non-incinerated medical waste (e.g. human tissue); (see checklist Annex 2)

5. Compliance and Operational Management Plan

Preparation of a plan for: (i) establishing compliance in current MWM system, including repairs, upgrading, replacement and new construction / procurement of equipment and facilities; (ii) creating and operating system and procedures for handling additional medical waste quantities generated by project activities, (iii) ensuring staff is aware, trained, disciplined and diligent in operating MWMS; (iv) implementing a monitoring plan for the generated quantities of the various waste types, their treatment and final disposal; include basic quality criteria such as: state of repair of system components, cleanliness around MWM facilities, completeness of incineration process, smoke development.

¹⁴ Medical Waste Management Plan

Attachment 1: Waste Management System Review

(1) Current waste volumes

Waste type	Estd. volume/week (m3)	Collection system	Transport	Final disposal
infectious waste				
sharps & needles				
bottles / glass				
human tissue				
food waste				
other waste				

(2) Incinerators / disposal facilities:

Type	Weekly capacity (m3)	Auxiliary fuel / incineration method	Condition	Remarks

Other remarks:

.....



Re

F

AA

T

O

صندوق

إعادة اعمار المناطق المتضررة

الله اكبر

Attachment 2: Demand and Gap Analysis

(1) Current waste volumes

Component / Issues	Identified Compliance Gaps	Rectification Measures description	Remarks (e.g. time and cost requirements)
condition & functionality of collection boxes			ca.weeks ca.\$
safety of temporary storage containers / facilities			ca.weeks ca.\$
transport to incinerators / deposits: safety and functionality of route and equipment			ca.weeks ca.\$
Incinerators: completeness of incineration process; quality of flue gases, prevailing wind directions, existence of sensitive receptors? (e.g. gardens, fields, residences, schools, hospital facilities, patients' wards)			ca.weeks ca.\$
quality and dimensions of receptacles for incineration residue (ashes), protection against rain and leaching			ca.weeks ca.\$
quality and dimensions of receptacles for non-incinerated medical waste (e.g. placentas)			ca.weeks ca.\$

Annex 8: Disclosure Requirements for E&S Instruments for Subprojects

A public consultation and disclosure campaign as required by OP 4.01 and OP4.12 will be prepared, organized and carried out. The Project Owner's representative (PMU or a Consultant) will assemble appropriate materials, (maps, graphs, drawings, simulations, models, key environmental figures) disclose them in a manner acceptable to Bank policies (timely prior to consultation, usually at least 4 weeks, in a form and language that are understandable, in locations accessible with reasonable effort to the groups being consulted) and organize one or more venues which will enable the affected population to participate without excessive undue efforts. Suggested venues would be one or more of the potentially affected (by visibility, traffic, land take or other nuisances) communities near the planned project site.

The materials and information to be disclosed will have to cover the following aspects of the project: (i) General project design and layout, emphasizing areas directly impacted by permanent or temporary works and structures, access and service roads, and areas indirectly impacted by construction or operation (noise, dust, borrow pits, landscape aesthetics etc.); (ii) summary of major environmental impacts generally associated with large scale civil construction works and landfill operations, (iii) overview of relevant World Bank environmental and social safeguards policies applicable to the project (OP4.01, OP4.04, OP4.11, OP4.12) and the approaches and instruments for mitigation of environmental and social impacts, which are commonly applied in landfill projects; (iv) overview environmental and social impact assessments. (v) a presentation and discussion of any alternative sites and landfill configurations.

The Project Owner will assure the presence at the consultations of competent technical staff familiar with the project. Discussions will be conducted in local language. With assistance of the project proponent, materials will be prepared clearly describing the project in a manner understandable for non-specialists: these can be maps, pictures, plans, diagrams and other information materials which are understandable to a non-technical audience, yet truly and fully characterize the project, the expected impacts and planned mitigation measures.

The PMU or Consultant will provide documentation of the following:

- Manner in which notification of the consultation was announced: media used, date(s), description or copies of the announcement
- Date(s) consultation(s) was (were) held
- Location(s) consultation(s) was (were) held
- Who was invited (Name, Organization or Occupation, Telephone/Fax/e-mail number/address (home and/or office))
- Who attended (Name, Organization or Occupation, Telephone/Fax/e-mail number/address (home and/or office))
- Meeting Program/Schedule (What is to be presented and by whom, how much time for input by the public)
- Summary Meeting Minutes (comments, questions and response by presenters)
- List of decisions reached, and any actions agreed upon with schedules, deadlines and responsibilities.

Excerpts on Consultation and Disclosure from From OP4.01:

Public Consultation

14. For all Category A and B projects proposed for IBRD or IDA financing, during the EA process, the borrower consults project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.¹⁵

Disclosure

15. For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B projects proposed for IBRD or IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.

16. For a Category A project, the borrower provides for the initial consultation a summary of the proposed project's objectives, description, and potential impacts; for consultation after the draft EA report is prepared, the borrower provides a summary of the EA's conclusions. In addition, for a Category A project, the borrower makes the draft EA report available at a public place accessible to project-affected groups and local NGOs. For projects described in paragraph 9 above, the borrower/FI ensures that EA reports for Category A subprojects are made available in a public place accessible to affected groups and local NGOs.

17. Any separate Category B report for a project proposed for IDA financing is made available to project-affected groups and local NGOs. Public availability in the borrowing country and official receipt by the Bank of Category A reports for projects proposed for IBRD or IDA financing, and of any Category B EA report for projects proposed for IDA funding, are prerequisites to Bank appraisal of these projects.

18. Once the borrower officially transmits the Category A EA report to the Bank, the Bank distributes the summary (in English) to the executive directors (EDs) and makes the report available through its InfoShop. Once the borrower officially transmits any separate Category B EA report to the Bank, the Bank makes it available through its InfoShop.¹⁶ If the borrower objects to the Bank's releasing an EA report through the World Bank InfoShop, Bank staff (a) do not continue processing an IDA project, or (b) for an IBRD project, submit the issue of further processing to the EDs.

¹⁵ For projects with major social components, consultations are also required by other Bank policies—for example, [OP/BP 4.10, Indigenous Peoples](#), and [OP/BP 4.12, Involuntary Resettlement](#)

¹⁶ For a further discussion of the Bank's disclosure procedures, see [The World Bank Policy on Access to Information](#) which as of July 1, 2010, replaced *The World Bank Policy on Disclosure of Information*. Specific requirements for disclosure of resettlement plans and indigenous peoples development plans are set out in [OP/BP 4.10, Indigenous Peoples](#), and [OP/BP 4.12, Involuntary Resettlement](#).

Annex 8: Documentation of Disclosure and Consultation Activities

Minutes of Meetings of the First Coordination Meeting with Relevant Ministries and Authorities

محضر اجتماع

تم عقد اجتماع صباح يوم الثلاثاء المصادف ٢٠١٥/٩/٢٢ في مقر صندوق اعادة الاعمار بحضور ممثلي وزارة الكهرباء ووزارة الاعمار والاسكان والبلديات والاشغال العامة ووزارة الصحة والبيئة لبحث خطة العمل البيئية والاجتماعية وسياسة اعادة التوطين التي ستقدم الى البنك الدولي لإعادة الاعمار والتنمية المتعلقة بمشروع العمليات الطارئة للتنمية حيث تمت مناقشة تفاصيل هذه الخطة وجرى التأكيد على ان تقوم الوزارات ذات الصلة باعداد تقارير عن الاثر البيئي لمشاريع اعادة الاعمار التي يراد انجازها وترفع للجهات البيئية المعنية لغرض ابداء الرأي بشأنها والمصادقة عليها.

وتم التأكيد على عدم وجود اي عارض قانوني فيما يخص استملاك الاراضي التي سوف يتم تنفيذ مشاريع اعادة الاعمار عليها، وفي حالة استملاك اي اراضي تعود للمواطنين يتم تعويضهم وفقا للقوانين العراقية النافذة ولم يكن لدى ممثلي الوزارات المعنية اي اعتراض على خطة العمل البيئية والاجتماعية وسياسة اعادة التوطين، وبهذا ختم المحضر.


عصام سمير رمضان

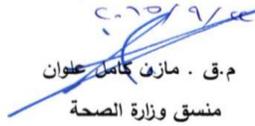
ممثل وزارة الاعمار والاسكان

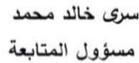
البلديات والاشغال العامة/ طرق وجسور


قصبي الحافظ

ممثل وزارة الاعمار والاسكان

والبلديات والاشغال العامة/ البلديات

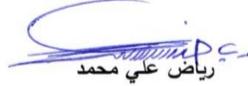

م. ق. مازن كامل علوان
منسق وزارة الصحة


سرى خالد محمد
مسؤول المتابعة


ريام امير علي

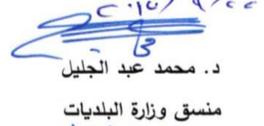
ممثل وزارة الاعمار والاسكان

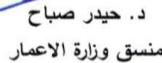
البلديات والاشغال العامة/ طرق وجسور

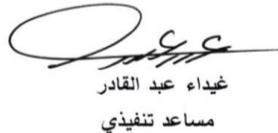

رياض علي محمد

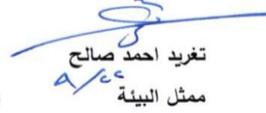
ممثل وزارة الاعمار والاسكان

والبلديات والاشغال العامة/ البلديات

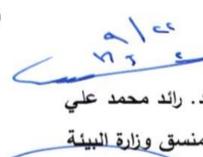

د. محمد عبد الجليل
منسق وزارة البلديات


د. حيدر صباح
منسق وزارة الاعمار


غيداء عبد القادر
مساعد تنفيذي


تغريد احمد صالح
ممثل البيئة


اسيل ماريب خليل
ممثل الكهرباء


د. راند محمد علي
منسق وزارة البيئة


م. ف. آراز صباح
منسق وزارة الكهرباء



Figure 12: Representatives from different authorities (including Ministry of Environment) discussing EODP activities

List of Participants in the Consultation Session with NGOs/CSOs and RF

محضر اجتماع

اجتمع د. عبد الباسط تركي سعيد رئيس صندوق اعادة اعمار المناطق المتضررة من العمليات الارهابية ظهر يوم الاثنين المصادف ٢٠١٦/٥/١٦ وفريق العمل في مقر الصندوق مع ممثلي منظمات المجتمع المدني العاملة في محافظتي صلاح الدين وديالى وجرى خلال الاجتماع مناقشة تفاصيل المشاريع التي ستنفذ في اطار قرض مشروع التنمية الطارئة الذي قدمه البنك الدولي لحكومة العراق لاعادة تأهيل (٤) قطاعات في (٧) مناطق في المحافظتين اعلاه، كما جرى الاستماع الى ملاحظات ومقترحات المشاركين في الاجتماع بشأن المشاريع واثرها البيئي والاجتماعي في المناطق المشمولة بالقرض ومدى مساهمة تلك المشاريع بعودة النازحين الى مناطقهم، وتم شرح آلية الاعداد والتنفيذ لهذه المشاريع وشروط البنك الدولي التي تضمن المحافظة على الظروف البيئية والاجتماعية خلال تنفيذ المشاريع، وكذلك اهمية مشاركة المجتمع المدني بمواطنيه ومنظماته بدعم تنفيذ تلك المشاريع بطريقة صائبة وشفافة.

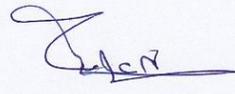
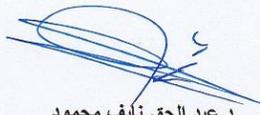
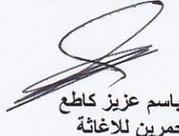
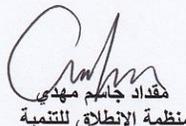
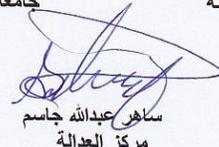
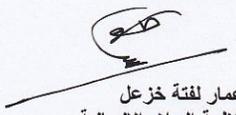
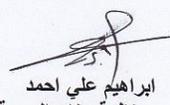
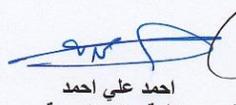
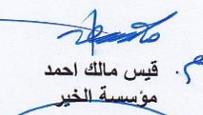
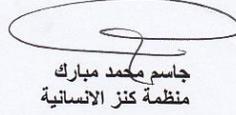
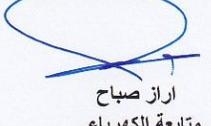
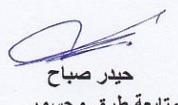
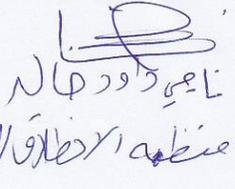
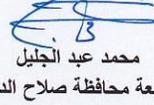
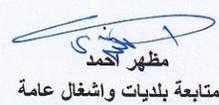
		
د. عبد الباسط تركي سعيد رئيس الصندوق	د. ن. نعمان حسين عطية جامعة تكريت	د. عبد الحق نايف محمود منظمة التنمية المستدامة
		
باسم عزيز كاطع حميرين للاغاثة	مقداد جاسم مهدي منظمة الانطلاق للتنمية	ساهر عبدالله جاسم مركز العدالة
		
عمار لفطة خزعل منظمة السلام الانسانية	ابراهيم علي احمد منظمة جنان الرحمة	احمد علي احمد منظمة جنان الرحمة
		
غيداء عبد القادر مكتب رئيس الصندوق	قيس مالك احمد مؤسسة الخير	جاسم محمد مبارك منظمة كنز الانسانية
		
راند محمد هالي متابعة محافظة ديالى	اراز صباح متابعة الكهرباء	حيدر صباح متابعة طرق وجسور
		
تاييب داود منظمة الانطلاق للتنمية	محمد عبد الجليل متابعة محافظة صلاح الدين	مظهر احمد متابعة بلديات واشغال عامة



Figure 13: NGOs/CSOs Participants discussing EODP activities in the Consultation Session





Figure 14: RF team responding to the inquiries of the participants in the consultation session

