

# **REPUBLIC OF IRAQ**

## **MINISTRY OF PLANNING**

**Iraq “Social Fund for Development” Project  
(SFDP)**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN  
(ESMP)**

**FOR THE  
REHABILITATION OF ELECTRICITY DISTRIBUTION GRID  
IN 9 VILLAGES (ABU KANBARA, ABU SARIFAH, AL  
AKSHEH, AL KARIM, AL THAWIHER, FINJAN AL THAHER,  
AL KHUDRA, DIBIS AND AL TAWAWREH)**

**IN  
AL-MUTHANA GOVERNORATE**

**14<sup>TH</sup> JANUARY 2020**

## Table of Contents

Executive Summary.....	1
<b>1. INTRODUCTION .....</b>	<b>3</b>
<b>2. PROJECT DESCRIPTION.....</b>	<b>3</b>
2.1 Objective of the Construction Works .....	4
2.2 Scope of Work.....	4
<b>3. BASELINE CONDITIONS .....</b>	<b>5</b>
3.1 The Project Area.....	5
3.2 Environmental and Social Baseline Conditions.....	9
3.2.1 Climate .....	9
3.2.2 Air Quality .....	9
3.2.3 Site Topography.....	9
3.2.4 Land use .....	9
3.2.5 Flooding.....	9
3.2.6 Noise .....	9
3.2.7 Heritage Environment.....	10
3.2.8 Traffic Level.....	10
3.2.9 Land acquisition.....	10
3.2.10 Social Aspects.....	10
<b>4. LEGAL ASPECTS.....</b>	<b>10</b>
4.1 Iraqi environmental legislations.....	10
4.2 The World Bank Safeguards Policies.....	12
4.2.1 OP/BP 4.01 - Environmental assessment procedure .....	12
4.2.2 OP/BP4.12 The key Operational Policy .....	12
4.2.3 OP/BP 4.11 Physical Cultural Resources .....	12
4.3 WBG EHS: The Environmental, Health, and Safety (EHS) Guidelines .....	12
<b>5. IMPACT ASSESSMENT AND MITIGATION MEASURES.....</b>	<b>12</b>
5.1 Construction Phase .....	12
5.2 Operational Phase.....	13
<b>6 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN .....</b>	<b>13</b>
<b>7 ENVIRONMENTAL AND SOCIAL MONITORING PLAN .....</b>	<b>23</b>
7.1 Environmental and Social Monitoring .....	23
7.2 ESMP Institutional Arrangements.....	23
7.3 Reporting requirements.....	23
7.4 Capacity Development and Resources Requirements.....	27
<b>8 PUBLIC CONSULTATION RESULTS .....</b>	<b>28</b>
8.1 Consultation Process:.....	28

8.2	Consultation Results:.....	28
<b>9</b>	<b>Grievance Redress Mechanism (GRM) .....</b>	<b>29</b>
<b>10</b>	<b>ANNEXES.....</b>	<b>30</b>
10.1	Annex (1): Public Consultations Photos .....	30
10.2	Annex (2): Sample of Public Consultation at Al Aksheh Village .....	32
	Annex (3): Sample individual interviews for both men and women .....	33

### **List of Figures**

Figure 1	Google map showing the location of the villages for electrical Distribution grid lines rehabilitation.....	4
Figure 2	Map of Iraq on the right and Al-Muthana governorate on the left.....	6
Figure 3:	Current situation of electricity distribution grid lines in the nine Villages.....	8

### **List of Tables**

Table 1:	Population of each village .....	10
Table 2:	Applicable Laws and Regulations in Iraq .....	11
Table 3:	Summary of Impact Assessment during Construction.....	12
Table 4:	Mitigation Measures during Construction Phase. ....	15
Table 5:	Mitigation Measures during Operation Phase.....	20
Table 6:	Monitoring Activities during Construction Phase.....	24
Table 7:	Monitoring Activities during Operation Phase .....	25
Table 8:	Capacity Development Requirements.....	27
Table 9:	Contact Information for GRM.....	29

## List of Abbreviations

<b>CDGs</b>	<b>Community Development Groups</b>
<b>ESMP</b>	<b>Environmental and Social Management Plan</b>
<b>EHS</b>	<b>Environmental, Health, and Safety</b>
<b>EMF</b>	<b>Electrical Magnetic Field</b>
<b>ESMF</b>	<b>Environmental and Social Management Framework</b>
<b>GIIP</b>	<b>Good International Industry Practice</b>
<b>GOI</b>	<b>Government of Iraq</b>
<b>GRM</b>	<b>Grievance Redress Mechanism</b>
<b>GBV</b>	<b>Gender Based Violence</b>
<b>MOE</b>	<b>Ministry of Environment</b>
<b>MOP</b>	<b>Ministry of Planning</b>
<b>MSDS</b>	<b>Material Safety Data Sheets</b>
<b>MWMP</b>	<b>Medical Waste Management Plan</b>
<b>OP</b>	<b>Operational Policy</b>
<b>PAPs:</b>	<b>Project Affected Peoples</b>
<b>PMO</b>	<b>Project Management Office</b>
<b>PPE</b>	<b>Personal Protective Equipment</b>
<b>RE</b>	<b>Resident Engineer</b>
<b>SFD</b>	<b>Social Fund Development</b>
<b>TOR</b>	<b>Terms of Reference</b>
<b>WB</b>	<b>World Bank</b>
<b>WHO</b>	<b>World Health Organization</b>

## EXECUTIVE SUMMARY

INTRODUCTION	<p>This ESMP is prepared in accordance to the ESMF requirements of the SFD project. The main objective of the ESMP is to assess the environmental and socio-economic impacts of the subprojects (during construction and operation phases) and to propose mitigation measures to mitigate the impacts associated with subproject. This subproject includes the Rehabilitation of electricity distribution grid in 9 villages in <b>Al-Muthana</b> governorate. The subprojects are expected to result in significant socio-economic benefits for the local communities and surrounding areas as it will improve the electricity distribution networks; increase the flexibility of providing electricity and therefore providing electricity to schools and other industrial and commercial activities.</p>	
PROJECT DESCRIPTION	<p>The subproject consists of the rehabilitation of electrical distribution grid lines in 9 villages. The 9 villages are: Abu Kanbara, Abu Sarifah, Al Aksheh, Al Karim, Al Thawihier, Finjan Al Thaher, Al Khudra, Dibis and Al Tawawreh villages in Al-Muthana governorate. The Rehabilitation of each electrical grid line will need about 15-20 worker per day. Workers are expected to be hired locally, however if a construction camp is deemed necessary, it will be installed on vacant state-owned land. Also, equipment and construction materials will be stored on vacant state-owned land. The anticipated duration of all works is around 180 days for all electrical distribution grid lines including mobilization and demobilization of contractors in the 9 villages. Works for Rehabilitation of the grid lines on Al-Muthana Governorate will include removing the old and damaged cables and all other fittings. Then the work will include installing distribution transformers and overhead cables. The work will also comprise of some civil work such as shallow excavation for poles, lifting the soils and other waste produced during the excavation, and also casting in order to prepare the foundations for the poles.</p>	
ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS	Climate	<p>Al-Muthana governorate is located in the southern part of Iraq, which has an arid climate. The major rain, is about 106 mm yearly, falls during the period December thru March, with a spread showering in April. The average annual temperature is 23.8 °C. The average monthly wind velocity is 2.3m/s.</p>
	Air quality	<p>The ambient air quality is within normal range.</p>
	Land	<p>No additional land for the work is needed to rehabilitate these electrical distribution grid lines.</p>
	Biodiversity	<p>No protected areas or endangered species (there is no critical or high biodiversity values that might be affected) in the vicinity of the sites.</p>
POLICY AND LEAGAL	<b>Applicable Iraqi laws</b>	
	<ul style="list-style-type: none"> <li>• Law no. 37 of 2008 Institutional arrangements for the Ministry of</li> </ul>	<b>Applicable WB Policies</b>
		<ul style="list-style-type: none"> <li>• OP 4.01 Environmental Assessment</li> </ul>

FRAMEWORK	Environment	
	• Law no. 27 of 2009 New Environmental Framework	• OP 4.12 Involuntary Resettlement
	• Regulations no. 2 of 2001 Preserving water resources	• OP 4.11 Physical and Cultural Resources
	• Law No.3 issued in 1997 for environmental protection	• WBG General Environmental, Health, and Safety guideline
	• Law No. (55) Issued in 2002 Law of heritage and antiques	WBG Environmental, Health, and Safety guideline for power Transmission and distribution
	• Law No. 37 of 2015 labor law	Grievance Redress Service (GRS)
ENVIRONMENTAL AND SOCIAL IMPACT ANALYSIS	<b>Environmental Receptor</b>	<b>Impact Significance</b>
	Air Quality	Medium
	Noise	Medium
	Water Resources	Low
	Soil	Low
	Solid and hazardous wastes	Low
	Flora & Fauna	Not significant
	Topography and landforms	Not significant
	Impacts on local traffic	Low
	Health and Safety	High
	Socio-Economic impacts	Medium
	Child labor	Medium
	Labor influx	Low
Creation of Job opportunities	High	
PUBLIC CONSULTATION RESULTS	Two modalities of consultations were carried out for this subproject. Public consultation was conducted in all 9 villages with men only due to the tribes' habit where 95 participants attended. The second approach was one-to-one interviews with both men and women to have their views and concerns of potential impacts during implementation. The number of individuals interviewed was 17 women and 47 men.	
GRIEVANCE REDRESS MECHANISM	The SFD is in the process of establishing a free hotline and is expected to be functioning within the next few months. Meanwhile, in order to comply with the WB requirements, SFD has temporary assigned three staffs as focal points with their cell phone numbers to be disseminated near each subproject's site for receiving calls and handling complaints. The contact details will be posted at site signboard and the complaint boxes will be installed in each location.	

# **Main Report**

## **1. INTRODUCTION**

According to the Environmental and Social Management Framework (ESMF) which was prepared for the Social Fund for Development project (SFDP) and disclosed locally and on the WB website, an Environmental and Social Management Plan (ESMP) should be prepared, cleared and publically consulted upon and disclosed prior to the commencement of any construction activities for the proposed subprojects.

This ESMP is developed to identify, assess and mitigate the environmental and social risks and impacts associated with the rehabilitation and operation of the electricity distribution grid in **nine** villages in **Al-Muthana** governorate. The ESMP is developed following the WB operational policies and Iraqi environmental and social standards. The ESMP should be implemented by all relevant parties.

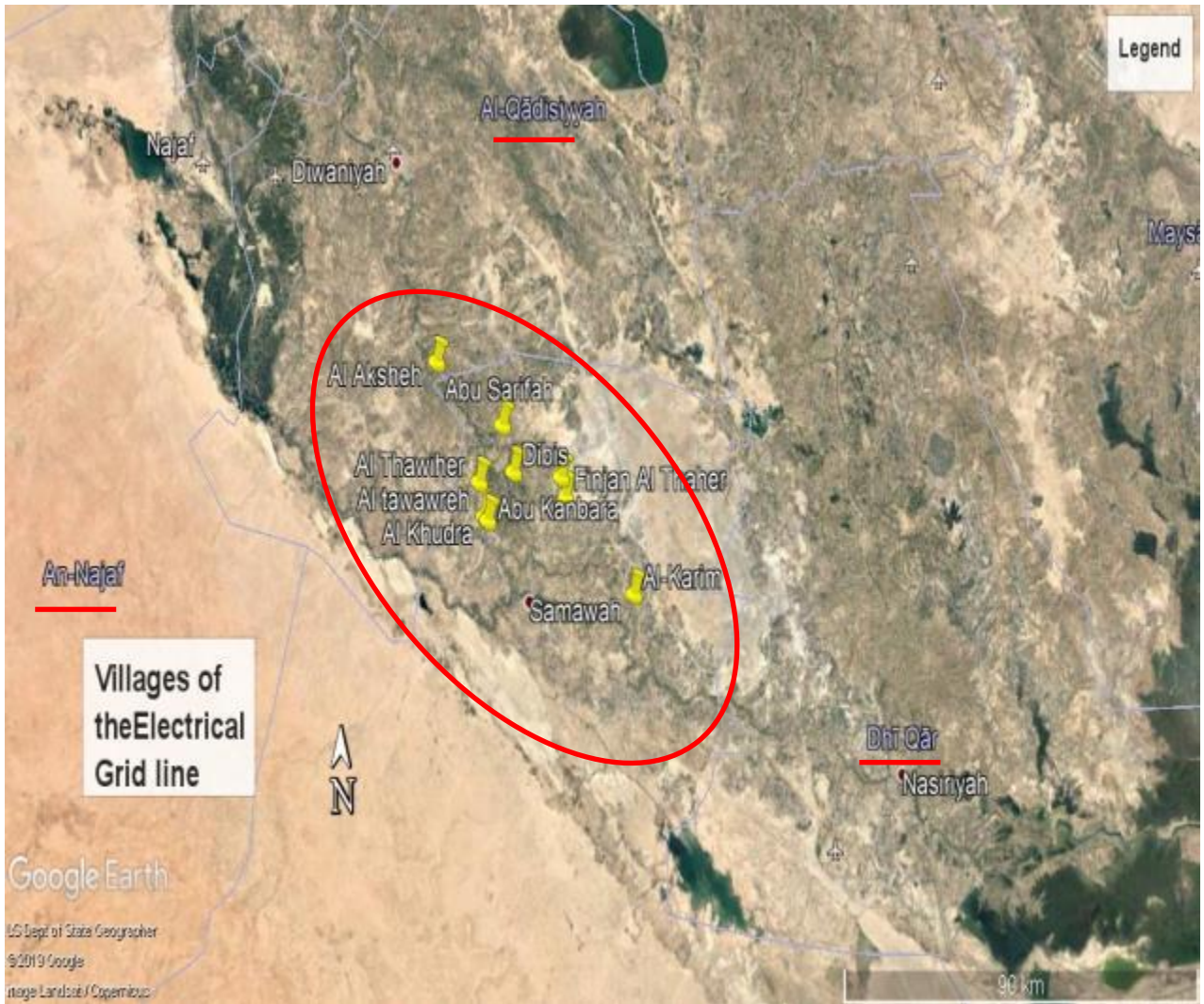
The objectives of this ESMP are to:

- Provide practical and achievable actions to ensure that the construction adverse environmental and social impacts are properly avoided or mitigated;
- Illustrate the institutional arrangements for implementing and monitoring the mitigation plans;
- Integrate community views and input on the environmental and social impacts related to the implementation of these subprojects;
- Comply with WB and national requirements;
- Provide information to the local community on the subproject activities, the associated risks and impacts, mitigation measures and introduce the Grievance Redress Mechanism (GRM) system.

## **2. PROJECT DESCRIPTION**

This subproject involves the rehabilitation of nine electrical gridlines located in the Governorate of Al-Muthana southwest of Baghdad as one contract package. Samawa is the administrative center of Al-Muthana governorate. The rehabilitation of the grid lines on Al-Muthana Governorate will include removing the old and damaged overhead cables and all other fittings and move them in the store that belongs to the ministry of electricity. Then the work will include installing distribution transformers, and cables. The work will also comprise of some civil works such as shallow excavations for poles, lifting the soils and other waste produced during the excavation, and also casting in order to prepare the foundations for the poles. These electrical gridlines will serve Abu Kanbara, Abu Sarifah, Al Aksheh, Al Karim, Al Thawiher, Finjan Al Thaher, Al Khudra, Dibis and Al Tawawreh villages within Al-Muthana governorate. Please refer to the below figure for the locations of the nine villages that need the electrical rehabilitation.





**Figure 1 Google map showing the location of the villages for electrical Distribution grid lines rehabilitation**

## **2.1 Objective of the Construction Works**

The objective of the subproject is to rehabilitate the above-mentioned electrical grid lines. The subproject will improve the electricity distribution networks, increase the flexibility of providing electricity and therefore providing electricity to schools and other industrial and commercial activities, and will support mitigating the effects of war to attract displaced citizens to their villages.

## **2.2 Scope of Work**

Works for rehabilitation of the grid lines in Al-Muthana Governorate will include removing the old and damaged cables and all other fittings and move them in the store that belongs to the ministry of electricity. These villages are provided with power via connection to existing sub-transmission line which is connected to transmission substation and the Voltage is 220V. Then the work will include installing oil type pole-mounted distribution transformers, cables and circuit breakers as follows:

Village	Transformers	Circuit Breakers	Cables (m)
Abu Kanbara	3	8	5000 + 5100
Abu Sarifah	3	6	3000 + 1400
Al Aksheh	6	16	4690 + 7980
Al Karim	3	6	9700 + 2100
Al Thawihher	3	6	2140 + 130
Finjan Al Thaher	3	6	2560 + 270
Al Khudra	6	12	13000 + 5700
Dibis	6	12	12000 + 15000
Al Tawawreh	9	18	9000 + 740

The work will also comprise of some civil work such as shallow excavation for poles, lifting the soils and other waste produced during the excavation, and also casting in order to prepare the foundations for the poles. The anticipated duration of rehabilitation works in the 9 villages is about 6 months with about 15-20 workers per day per site and most of them are local workers and the rest are engineers and technicians. Workers from other villages will need to have their accommodation facilities in the camp, during the rehabilitation phase. Setup of a camp in the area near of each electrical gridline will be on vacant state-owned lands. Also storage of equipment and construction materials will be on vacant state-owned lands. The construction is expected to take place by carrying the pole materials to each pole base by lorry and assembling the poles (9-11m in height) on site. Work is expected to take place at several construction locations at the same time. The construction teams at each location would consist of crews, working one after another, with each crew responsible for one of the following: preparing the foundations for the poles, erecting of the poles and installing the wires and its accessories.

### 3. BASELINE CONDITIONS

#### 3.1 The Project Area

The subproject is located in the governorate of Al-Muthana that is situated in southern part of Iraq, Al-Muthana borders Saudi Arabia and shares internal boundaries with the governorates of Basra, Thi-Qar, Al-Qadisiyah, and Al-Najaf (as shown in figure 2 below). The proposed location of these electrical distribution grid lines will be in an open area.



**Figure 2 Map of Iraq on the right and Al-Muthana governorate on the left.**

These subprojects are located in flat areas. The area adjacent to the project sites is characterized as rural residential and semi desertic to agricultural in some area. The current situation of these electrical grid lines are shown below:



Current Situation at Abu Sarifah Village



Current Situation at Abu Kanbara Village



Current Situation at Al Thawiher Village



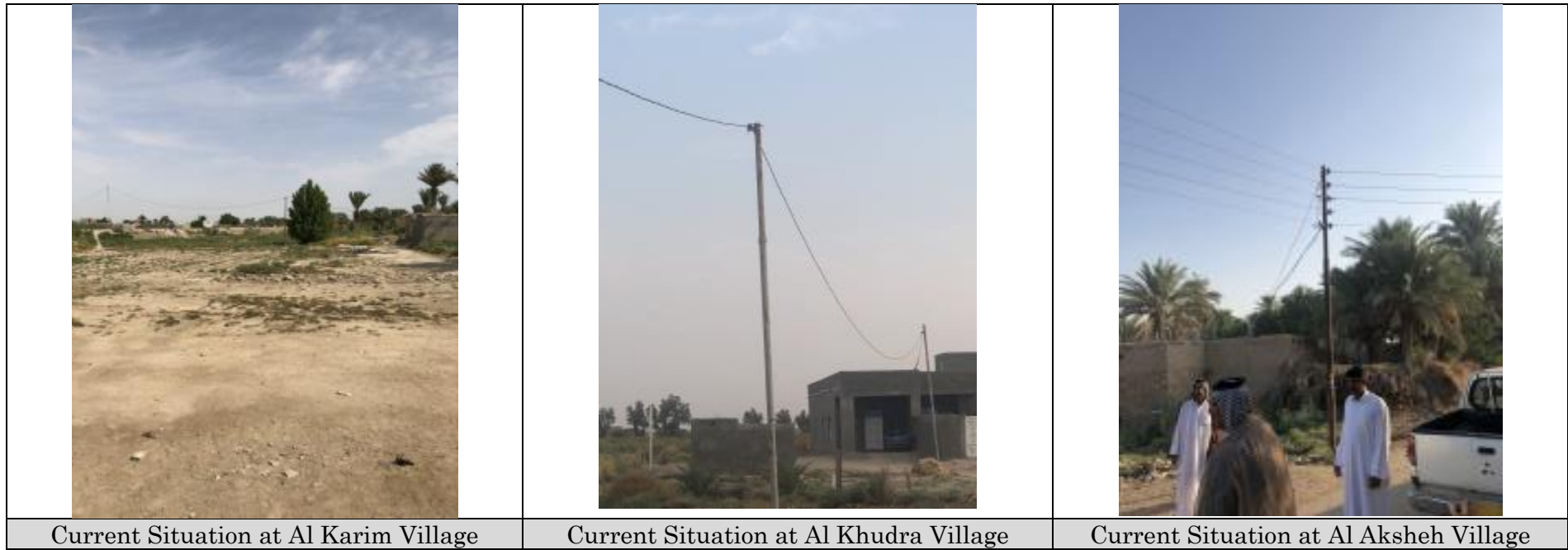
Current Situation at Al Tawawreh Village



Current Situation at Finjan Al Thaher Village



Current Situation at Dibis Village



**Figure 3: Current situation of electricity distribution grid lines in the nine villages**

## **3.2 Environmental and Social Baseline Conditions**

The environmental baseline section is presented to give clear overview of the environmental and social conditions in the vicinity of the subproject locations prior to commencement of works.

### **3.2.1 Climate**

Al-Muthana governorate is located in the southern part of Iraq. The governorate's landscape is dominated by desert plains, with only a narrow ribbon of irrigated farmland along the Euphrates River in the north. The major rain falls during the period December thru March, with a spread showering in April. During the year, about 106 mm of precipitation falls annually. In summer temperatures easily surpass 40°C, the average annual temperature is 23.8 °C. The driest weather is in June, July & August, September when no rainfall (precipitation) occurs. While, the wettest weather is in December - March when rainfall (precipitation) occurs. The average monthly wind velocity is 2.3m/s.

### **3.2.2 Air Quality**

The subproject sites are located in residential open areas, so the expected concentrations of air pollutants are low. Air pollutants in the villages are caused mainly from movement of vehicles and trucks. Therefore, the ambient air quality is expected to be within the WHO ambient air quality standards.

### **3.2.3 Site Topography**

No natural land obstacles are presented in the subproject areas. The subproject areas are free of mountains, cliffs, and valleys. There are no protected areas or endangered species (there is no critical or high biodiversity values that might be affected) in the vicinity of the sites (more than 4 Km) for all the villages.

### **3.2.4 Land use**

The area adjacent to the project sites is characterized as rural residential and semi desertic to agricultural in some area. However, the rehabilitation activities will not cause an impact on agricultural are or make any crop damage.

### **3.2.5 Flooding**

There are no records of flooding that occurred previously in the area.

### **3.2.6 Noise**

Currently, there is no traffic congestion and consequently the existed noise level is within the normal levels.

### 3.2.7 Heritage Environment

There are no sites of historical or cultural importance in the area. There are no cemeteries, historical-cultural monuments, churches, mosques near the project that need to be removed or will be impacted due to the rehabilitation activities.

### 3.2.8 Traffic Level

No traffic problem or traffic congestion will be expected during the rehabilitation phase or in the operation phase.

### 3.2.9 Land acquisition

The rehabilitation activities of electrical grid lines will be within the existing footprints of the lines that were built on state-owned lands. Contractors are expected to use part of these lands temporary for the storage of their equipment and materials. No permanent or temporary land acquisition is anticipated, and the rehabilitation activities will not cause relocation of people and any individuals.

### 3.2.10 Social Aspects

The population in each village is presented in the table below. There are no close residential complexes or community structures in close proximity to these subprojects. All the areas around and within the sites remain clear of any settlement or economic use and are ready for rehabilitation works, no interference was registered from the local community who are eager for the works to be start.

Table 1: Population of each village

Village	Population
Abu Kanbara	1924
Abu Sarifah	1153
Al Aksheh	1173
Al Karim	2290
Al Thawiher	1220
Finjan Al Thaher	850
Al Khudra	1323
Dibis	1400
Al Tawawreh	1534

## 4. LEGAL ASPECTS

### 4.1 Iraqi environmental legislations

During construction and operation phases of the subproject, the work must follow the Iraqi laws and regulations for the environmental standards. These are:

1. Laws of the environment protection No.3 issued in 1997 and its relevant published regulations. No environmental regulations for gaseous emissions, noise and other air pollution standards are in force and legally binding. However, limits for water disposal in any surface waters and main sewers are regulated according to the regulations no. (25)/1967 and their update modifications released from the Ministry of Health (MOH) and the Ministry of Environment (MOE).
2. New environmental framework Law No. 27 of 2009 by the Iraqi National Government was introduced but the executive decrees remain to be prepared. There are as yet no formally adopted requirements for environmental assessment.
3. 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.
4. Regulations of the MOE on sanitary waste must be followed, and for the rubbles (construction & demolition waste) the regulations, legislations and instruction of both MOHE and MOCHPM.

No environmental regulations for gaseous emissions, noise and other air pollution standards are in force and legally binding. Law of heritage and antiques no. (55) Issued in 2002, while for a sanitary waste (municipal) the regulations of the MOE must be followed, and for the rubbles (construction & demolition waste) the regulations, legislations and instruction of both MOHE and MOCHPM must be followed. It is important also to mention that, the contractor will sign employment agreement with all construction workers by following labor law of Iraq no 37 of 2015.

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 construction works. Hence, social safeguards issues remain very largely uncovered except to the extent they are referred to under environmental laws.

Table 2: Applicable Laws and Regulations in Iraq

Law	Subject
Law no. 37 of 2008 for Ministry of Environment	Describes institutional arrangements of the Ministry of Environment and Outlines policies and roles and responsibilities toward protecting the environment.
Law no. 27 of 2009	Protection and Improvement of Environment Environmental protection from pollution resulted from petrol and natural gas extraction
Regulations no. 2 of 2001	Preserving water resources.
Law no. (55) Issued in 2002	Law of heritage and antiques
Law No. 37 of 2015.	Labor Law Labor codes, general labor and employment acts



## 4.2 The World Bank Safeguards Policies

In addition to the Iraqi laws and regulation the ESMP follows key policies and procedures of the World Bank; the following section presents the WB operational policies relevant to the construction and operation of the subprojects.

### 4.2.1 OP/BP 4.01 - Environmental assessment procedure.

### 4.2.2 OP/BP4.12 The key Operational Policy

### 4.2.3 OP/BP 4.11 Physical Cultural Resources

## 4.3 WBG EHS: The Environmental, Health, and Safety (EHS) Guidelines

These are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). When one or more members of the WB Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards.

## 5. IMPACT ASSESSMENT AND MITIGATION MEASURES

### 5.1 Construction Phase

This section of the report describes the environmental and social impacts that are likely to result from the rehabilitation of these subprojects, and the mitigation measures addressing them. The Environmental mitigation plans, procedures and responsibilities as required during the construction phase must comply with the available specifications, legislation, laws issued by the MOHE.

The construction contractor(s) will be responsible for compliance with the ESMP provisions during the rehabilitation phase of these electricity distribution grid lines. The contractor will be also in charge of undertaking construction works in a manner which complies with all relevant environmental procedures, adheres to all legislative requirements, and ensures that all environmental objectives associated with the contract are achieved. The overall assessment of the key environmental and social impacts is summarized below. According to the above environmental baseline and the proposed mitigation measures, it can be expected that the impact significance is low for most of the environmental indicators for some parameters while health and safety has high impact as shown in the table below:

Table 3: Summary of Impact Assessment during Construction

	<b>Environmental and Social Indicators</b>	<b>Impact Significance</b>
1	Air Quality	Medium
2	Noise	Medium
3	Water Resources	Low
4	Soil	Low
5	Solid and hazardous wastes	Low
6	Flora & Fauna	Not significant
7	Topography and landforms	Not significant
8	Impacts on local traffic	Low
9	Health and Safety	High
10	Socio-Economic impacts	Medium

11	Child labor	Medium
12	Labor influx	Low
13	Creation of Job opportunities	High

## 5.2 Operational Phase

During the operational period, the subprojects are expected to result a positive socio-economic outcome for the local communities. Socially harmful consequences of these electrical grids are not anticipated. However, the continued operation of a GRM for one year following opening of these grids will ensure that local community members have an accessible, fair and transparent means of reporting any emerging adverse impacts, and a means of obtaining mitigation.

During operation of the electrical grid lines, hazardous wastes might be generated during routine operations (e.g., used oils, hydraulic fluids, coolants, solvents, and cleaning agents) and in the same time the risk of soil contamination is minimal. Therefore, minor negative impact may be resulted due to these wastes. These wastes are typically should be placed in containers, characterized and labeled, possibly stored briefly, and transported by a licensed contractor to an appropriate permitted off-site disposal facility as a standard practice to minimize the impact. It's also, Scrap fittings, insulators; cross arms, conductors, and other scrap which are expected, however it is expected that the amount of generated hazardous waste will not be significant. In terms of Noise from grid lines which is usually not clearly audible to a person on the ground below; however, noise may be emanated due to corona effects. Corona associates with operating grid lines under certain weather conditions, rainy and foggy weather, which does not normally occur within the project area. For the health and safety impact, There are major safety risks associated with the operation of electrical distribution grid lines: 1) electric shock risks, and 2) the probability to fall down the pole, however, the normal safety precautions that are followed in the design and construction of electrical grid lines, transformers, etc. are generally minimizing such risks both to the general public and to the maintenance workers.

## 6 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

In this section, the identified mitigation measures will be summarized. The responsibility for implementation of the mitigation measures will be mostly upon the contractor. However, the supervision and assurance that the mitigation measures are implemented will be the responsibility of the Resident Engineer who represents the ministry as the Project Owner.

The Resident Engineer (RE) will be assisted by a team of environmental and social officers who will be responsible for supervising the daily activities of the contractor and will report non-compliances to the Resident Engineer in order to take necessary actions towards the contractor in addition to the OHS aspects. Regular supervision site visits will also be conducted by the PMO environmental/social officer in association with a qualified environmental and social consultant who will provide technical advice in case there is a need to modify or add new mitigation measures as work necessitates.

The costs of mitigation measures are estimated based on the average market rates for similar activities in Iraq and can be used as indicative costs. It is the sole responsibility of the contractor to estimate the costs associated with the recommended mitigation measures based on his work experience.

In terms of hazardous waste, the following mitigation should be followed:

- Provide adequate sanitation facilities serving all workers (mentioned in HSE).
- Paints with toxic ingredients or solvents or lead-based paints will not be used
- All waste should be deposited through licensed haulers/transporters to licensed and regulated landfill sites appropriate to the type of waste generated (e.g. solid, household, hazardous).

The following tables summarize the mitigation measures during the construction and operation phase which are required to be undertaken to avoid any negative impacts on the environment. Responsibilities and estimated costs are also presented.

Table 4: Mitigation Measures during Construction Phase.

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated Cost in US\$
1	Air quality	<ul style="list-style-type: none"> <li>• Unpaved roads, e.g. which may be utilized for construction vehicles movement or transportation of construction materials should be prepared in a way to avoid dust emissions. Watering to suppress dust should take place regularly.</li> <li>• Watering or increase of the moisture level of the open materials storage piles to reduce dust levels.</li> <li>• Enclosure or covering of inactive piles to reduce wind erosion.</li> <li>• Loads in all trucks transporting dust-generating materials have to be sprayed with water to suppress dust, as well as wheels of means moving inside and outside of the construction-site.</li> <li>• Speed reduction for vehicles approaching the site to less than 40 km/hr. On site, speed should not exceed 20 km/hr.</li> </ul>	Contractor	Resident engineer	1000
		<ul style="list-style-type: none"> <li>• Engines of vehicles and other machinery are kept turned on only if necessary, avoiding any unnecessary emission.</li> <li>• Machines and equipment are periodically checked and maintained to ensure their good working condition.</li> <li>• All equipment and machines must be maintained and tested for compliance with standards and technical regulations for the protection of the environment and have appropriate certifications.</li> <li>• Activities are carried out using the minimum required number of means at the same time.</li> <li>• Electric small-scale mechanization and technical tools are used when available and feasible.</li> </ul>	Contractor	Resident engineer	Included in contractor cost
2	Noise	Construction activities are to take place within reasonable hours during the day and early evening. Night-time activities near noise sensitive areas, such as residential buildings, should not be allowed.	Contractor	Resident engineer	Included in contractor cost
		<ul style="list-style-type: none"> <li>• Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order.</li> <li>• Equipment to run only when necessary</li> <li>• Positioning of the noise sources in a concealed area with respect to acoustic receptors, consistent with the needs of the construction site.</li> </ul>	Contractor	Resident engineer	Included in contractor cost
		Use of personal protection equipment for workers especially those who use jack hammers or near noisy engines or compressors.	Contractor	Resident engineer	1000

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated Cost in US\$
3	Water resources	Wastewater from the worker rest areas or construction offices should be contained in solid containers and should be removed regularly from site by means of authorized contractors.	Contractor	Resident engineer	1000
		<ul style="list-style-type: none"> <li>In case of using septic tanks on site, the engineering drawings of these tanks should be presented to the Resident Engineer for approval.</li> </ul>	Contractor	Resident engineer	Included in contractor cost
4	Soil	<ul style="list-style-type: none"> <li>To prevent soil contamination by oil/grease spills, leakages or releases, all manipulations of oil derivatives in the process of construction and provision of the fuel to the machines should be performed with maximum care; leak proof containers should be used for storage and transportation of oil/grease and wash off from the oil/grease handling area shall be drained through drains and treated appropriately before disposal;</li> <li>Construction waste and debris shall be collected on a regular basis and disposed of at designated landfills;</li> <li>Only authorized quarries shall be used for purchasing soil to be used for embankment, padding, bedding, backfilling during construction; and</li> <li>It must be prohibited to operate equipment and vehicles outside the designated work areas and roads.</li> </ul>	Contractor	Resident engineer	Included in contractor cost
		<ul style="list-style-type: none"> <li>No hazardous waste storage to take place directly on soils. Appropriate and enclosed containers should be utilized.</li> </ul>	Contractor	Resident engineer	1000
5	Solid and hazardous wastes	<ul style="list-style-type: none"> <li>Minimize waste generation on site.</li> <li>Simple waste management plan for specific waste streams must be developed.</li> <li>General waste must be collected and transported to local council approved disposal sites.</li> <li>Food wastes must be collected, where practicable, considering health and hygiene issues, for disposal off-site through licensed contractors.</li> <li>Waste containers must be located at each worksite.</li> <li>Chemical wastes must be collected in 200 liter drums (or similar sealed container), appropriately labeled, for safe transport to an approved chemical waste depot or collection by a liquid waste treatment service.</li> <li>Allocate and prepare areas for temporary storage of scrap.</li> <li>Storage, transport and handling of all chemicals must be conducted in accordance with all legislative requirements, through licensed contractors and in coordination with the local authority.</li> <li>All hazardous wastes must be appropriately stored in bounded areas and should be clearly identified as "hazardous".</li> <li>Transportation and disposal of hazardous wastes should be done through licensed</li> </ul>	Contractor	Resident engineer in coordination with the local authority and ministry of science and technology regarding hazardous wastes	1000

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated Cost in US\$
		<p>contractors and in close coordination with the relevant local authority and in compliance with the legal requirements and instructions of the ministry of science and technology previously.</p> <ul style="list-style-type: none"> <li>• Hazardous liquids, such as solvents, rust proofing agents and primer must be managed in accordance with the requirements of relevant legislation and industry standards.</li> <li>• A hazardous materials inventory for the construction period must be prepared.</li> <li>• Material Safety Data Sheets (MSDS) for hazardous materials must be available on-site during construction and made available and explained to workers.</li> <li>• Hydrocarbon wastes, including lube oils, must be collected for safe transport off-site for reuse, recycling, transport or disposal at approved locations.</li> </ul>			
6	Flora & Fauna	Not Applicable	Not Applicable	Not Applicable	Not Applicable
7	Topography and landforms	Not Applicable	Not Applicable	Not Applicable	Not Applicable
8	Traffic	<ul style="list-style-type: none"> <li>• Where practicable, truck deliveries must be restricted to daytime working hours.</li> <li>• Clear traffic signs and signs signals must be installed on-site to provide for safe traffic.</li> <li>• In case a narrow access road needs to be occupied for limited period (for example by loading/unloading trucks or loaders) the occupation time should be minimized.</li> <li>• The contractors should make sure that the employed drivers of construction machinery (such as trucks and loaders) have received sensitization/training on safety utilization of their machines in order to minimize accidents risks.</li> </ul>	Contractor in coordination with the Local Traffic Department for some sections	Resident Engineer	500
9	Health and Safety	<ul style="list-style-type: none"> <li>• Limit speed of construction vehicles and provide road signage for drivers and local community.</li> <li>• Only allowing trained and certified workers to install, maintain, or repair electrical equipment.</li> </ul>	Contractor	Local traffic department in coordination with RE	1000
		<ul style="list-style-type: none"> <li>• Qualified personnel must be employed for the construction equipment, and personnel must be trained for health and safety issues.</li> <li>• The contractor shall prepare an OHS plan and emergency procedures.</li> <li>• Use of signs, barriers (e.g. locks on doors, use of gates, use of steel posts surrounding transmission towers, particularly in urban areas), and education / public outreach to prevent public contact with potentially dangerous equipment;</li> <li>• Grounding conducting objects (e.g. fences or other metallic structures) installed near</li> </ul>	Contractor	Resident engineer	1500

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated Cost in US\$
		<ul style="list-style-type: none"> <li>power lines, to prevent shock.</li> <li>Personal protection equipment such as eyeglasses, gloves, hard hats and safety belts must be supplied and continuously used by all workers, technicians, engineers and site visitors.</li> </ul>			
		<ul style="list-style-type: none"> <li>compliance with international standards for good construction practices;</li> <li>adherence to local and international guidance and codes of practice on EHS management during construction;</li> <li>implementation of EHS procedures as a condition of contract with contractors and their sub-contractors;</li> <li>pre-construction assessment of the EHS risks and hazards associated with construction and operation, including consideration of local cultural attitudes, education level of workforce and local work practices;</li> <li>provision of appropriate training on EHS issues for all construction and operation workers, including initial induction and regular refresher training, taking into account local cultural issues;</li> <li>provision of health and safety information;</li> </ul>	Contractor	Resident engineer	Included in contractor cost
		<ul style="list-style-type: none"> <li>For working at height: Testing structures for integrity prior to undertaking work</li> <li>Installation of fixtures on tower components to facilitate the use of fall protection systems;</li> <li>Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures</li> <li>Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached;</li> </ul>	Contractor	Resident engineer	1000
		<ul style="list-style-type: none"> <li>Any accidents to be reported and treated within site as a first aid procedure.</li> <li>Fuel and oil changing shelters should be equipped with necessary firefighting and safety equipment</li> <li>First aid items should be available all times onsite and trained staff on emergency aids should be identified.</li> </ul>	Contractor	Resident engineer in coordination with health & safety officials.	1000
10	<b>Handling Complaints</b>	<ul style="list-style-type: none"> <li>A complaints register will be kept on site and this will feed into the GRM. Details of complaints received will be incorporated into the audits as part of the monitoring process.</li> </ul>	Resident Engineer	PMO	Included in contractor cost

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated Cost in US\$
11	<b>Social impacts</b>	<ul style="list-style-type: none"> <li>• Job opportunities should be primarily provided to the community people adjacent to the electrical grid lines.</li> <li>• Community leaders should be represented in a Steering Committee. They should be informed about the job opportunities available for the community people.</li> <li>• The community should voice their concerns through appropriate grievances and redress mechanism.</li> <li>• It is strongly recommended that PMO should provide awareness rising among the community that the EMF impact is limited in case of respecting the ROW.</li> </ul>	Contractor	RE/PMO	Included in contractor cost
12	<b>Child labor and Gender Based Violence</b>	<ul style="list-style-type: none"> <li>• Rigid obligations and penalties will be added to the contractor contracts in order to warrantee no child labor exist in the subproject</li> <li>• The PMO will oblige the contractor to keep a copy of IDs of laborers in order to monitor the hired staff (Chapter 11 of the 2015 Labor Law of Iraq sets the age for hazardous works 18 years old).</li> <li>• Labor influx should also be managed by contractor and ensure Code of Conduct is introduced and applied to avoid impact on local community and provide mitigation measure for GBV risks</li> <li>• The contractor also will be obliged to maintain daily attendance sheets in order to verify the attendance of workers in case of accidents and provide the injured persons with proper health insurance</li> <li>• The code of conduct for workers/contractors should be introduced to prevent misconducts, including prevention of sexual harassment and gender based violence and also training and awareness rising for workers should be continued, through daily toolbox talks and other training opportunities.</li> </ul>	Contractor	Resident engineer	Included in contractor cost
<b>Total cost US\$ (rehabilitation phase)</b>					<b>10,000</b>



Table 5: Mitigation Measures during Operation Phase.

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
1	• Air quality	• The net impact of the Project on air quality is not significant and temporary, and will be limited to Construction Period.	Not Applicable	Not Applicable	Not Applicable
2	• Noise	• Vibration or humming noise can be noticeable and is most often associated with older electrical grid lines. It is usually the result of conductor mounting hardware that has loosened slightly over the years and can be easily repaired by the local authority, especially near residential areas or other sensitive receptors such as schools and hospitals	Local authorities	Local authorities	No Cost
3	<b>Water resources</b>	Not applicable	Not applicable	Not applicable	Not applicable
4	<b>Soil</b>	Not applicable	Not applicable	Not applicable	Not applicable
5	<b>Solid &amp; hazardous wastes</b>	<ul style="list-style-type: none"> <li>• During the operational period, some littering and waste generation resulting from the repair activities will occur (Oil from transformer). Littering may occur due to wind action.</li> <li>• Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids,</li> <li>• Using impervious surfaces for refueling areas and other fluid transfer areas</li> </ul>	Local Authority (Municipality)	Local authority (Municipality)	Within municipal budget
6	<b>Flora &amp; Fauna</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
7	<b>Topography and landforms</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
8	<b>Handling Complains</b>	The continued operation of a GRM for one year following opening of the electrical grid lines for use will ensure that local community members have an accessible, fair and transparent means of reporting any emerging adverse impacts, and a means of obtaining mitigation.	Local authorities	Local authorities	No cost
9	<b>Health and Safety</b>	<ul style="list-style-type: none"> <li>• Only allowing trained and certified workers to install, maintain, or repair electrical equipment</li> <li>• Deactivating and properly grounding live power distribution lines before work is performed on, or in close proximity, to the lines</li> <li>• Ensuring that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards. Qualified or trained employees working on transmission or distribution systems should be able to achieve the following: 1- Distinguish live parts from other parts of the electrical system 2- Determine the voltage of live parts 3- Understand the minimum approach distances outlined for specific live line voltages 4- Ensure proper use of special safety equipment and procedures when working near or on exposed energized parts of an electrical system.</li> <li>• Workers should not approach an exposed energized or conductive part even if properly</li> </ul>	Local authorities	Local authorities	No cost

Receptor	Mitigation Measures	Responsibility	Supervision	Total estimated
	<p>trained unless: 1- The worker is properly insulated from the energized part with gloves or other approved insulation; or, 2- The energized part is properly insulated from the worker and any other conductive object; or, 3- The worker is properly isolated and insulated from any other conductive object (live-line work).</p> <ul style="list-style-type: none"> <li>• Where maintenance and operation is required within minimum setback distances, specific training, safety measures, personal safety devices, and other precautions should be defined in a health and safety plan</li> <li>• Workers not directly associated with power transmission and distribution activities who are operating around power lines or power substations should adhere to local legislation, standards, and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning, and other activities;</li> <li>• Minimum hot stick distances may only be reduced provided that the distance remaining is greater than the distance between the energized part and a grounded surface.</li> <li>• Testing structures for integrity prior to undertaking work;</li> <li>• Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others;</li> <li>• Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters above the working surface, but sometimes extended to 7 meters, depending on the activity). The fall protection system should be appropriate for the tower structure and necessary movements, including ascent, descent, and moving from point to point;</li> <li>• Installation of fixtures on tower components to facilitate the use of fall protection systems;</li> <li>• Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached;</li> <li>• Hoisting equipment should be properly rated and maintained and hoist operators properly trained;</li> <li>• Safety belts should be of not less than 16 millimeters (mm) (5/8 inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibers become evident;</li> <li>• When operating power tools at height, workers should use a second (backup) safety strap; <ul style="list-style-type: none"> <li>• Signs and other obstructions should be removed from poles or structures prior to undertaking work;</li> </ul> </li> <li>• An approved tool bag should be used for raising or lowering tools or materials to workers on structures.</li> <li>• Identification of potential exposure levels in the workplace, including surveys of exposure levels in new projects and the use of personal monitors during working activities;</li> </ul>			

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
		<ul style="list-style-type: none"> <li>• Training of workers in the identification of occupational EMF levels and hazards;</li> <li>• Establishment and identification of safety zones to differentiate between work areas with expected elevated EMF levels compared to those acceptable for public exposure, limiting access to properly trained workers;</li> <li>• Implementation of action plans to address potential or confirmed exposure levels that exceed reference occupational exposure levels developed by international organizations such as the International Commission on Non-Ionizing Radiation Protection (ICNIRP), and the Institute of Electrical and Electronics Engineers (IEEE).</li> <li>• Use of signs, barriers (e.g. locks on doors, use of gates, use of steel posts surrounding transmission towers, particularly in urban areas), and education / public outreach to prevent public contact with potentially dangerous equipment;</li> <li>• Grounding conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock.</li> </ul>			
10	<b>Child labor and Gender Based Violence</b>	<ul style="list-style-type: none"> <li>• Rigid obligations should be applied in order to warrantee no child labor exist in the subproject.</li> <li>• The Local authorities will be responsible to keep a copy of IDs of laborers in order to monitor the hired staff (Chapter 11 of the 2015 Labor Law of Iraq sets the age for hazardous works 18 years old).</li> <li>• Labor influx should also be managed by contractor and ensure Code of Conduct is introduced and applied to avoid impact on local community and provide mitigation measure for GBV risks</li> <li>• The code of conduct for workers/contractors should be introduced to prevent misconducts, including prevention of sexual harassment and gender based violence and also training and awareness rising for workers should be continued, through daily toolbox talks and other training opportunities.</li> </ul>	Local authorities	Local authorities	No Cost
<b>Total cost US\$ (Operation phase)</b>					<b>No Cost</b>

## **7 ENVIRONMENTAL AND SOCIAL MONITORING PLAN**

### **7.1 Environmental and Social Monitoring**

In order to ensure full compliance of the performed activities to the environmental and social requirements, regular monitoring should be performed. For this purpose, an environmental and social monitoring program has been established for the construction phase to ensure the proper implementation of the environmental and social mitigation measures.

### **7.2 ESMP Institutional Arrangements**

In order to ensure full compliance with the environmental and social requirements which are described above, PMO nominated a qualified engineer to act as the focal point for environmental and social affairs at the central level. On the field level, PMO nominated two engineers in Al-Muthana to act as environmental and social officers. Those engineers will be trained on monitoring and reporting of environmental and social impacts and how to fill the checklist to be used during field visits before implementation starts.

The Resident Engineer will be the officially responsible staff member for ensuring environmental and social compliance. S/He will be assisted by the designated environmental and social field officers.

In addition, a qualified consultant is recruited by the PMO to provide technical assistance and capacity building to the environmental and social team both at the central level and at the field level.

### **7.3 Reporting requirements**

In order to ensure that the mitigation and monitoring measures are being carried out effectively with the required frequency, a clearly defined and regular reporting and response system must be established. The needed frequency of report generation for inspection is to be monthly, and for auditing twice a year, environmental monitoring is once per year.

The information will be made available to the relevant regulatory authorities as required. In addition to the monitoring and reporting requirements documented in the relevant sections of the ESMP, the following reporting regime will be implemented:

- a) All incidents or accidents during the rehabilitation should be reported immediately to relevant authorities.
- b) All corrective measures must be discussed to ensure compliance with laws and regulations.
- c) Reports for personnel training on environmental issues or emergency practices must be produced.
- d) Progress reports, environmental monitoring report and other inspections reports must be produced periodically.

The PMO environmental and social field officers will provide the Resident Engineer with a weekly report briefing their observations and recommendations for action. Whereas the Resident Engineer shall prepare an environmental and social management report on monthly basis to PMO in Baghdad.

Table 6: Monitoring Activities during Construction Phase.

Receptor		Monitoring Activities	Monitoring Indicators	Frequency	Responsibility	Supervision	Total estimated Cost in US\$
1	Air quality	<ul style="list-style-type: none"> <li>Investigate dust complaints from workers and residents</li> <li>Visual inspection of vehicles and equipment operating or entering the site and Measurements of exhaust emissions (CO, SO<sub>x</sub>, NO<sub>x</sub>, PM10, PM2.5)</li> </ul>	<ul style="list-style-type: none"> <li>Recorded and documented complaints</li> <li>Record the status of equipment and vehicles on site (excessive black or white smoke)</li> </ul>	<ul style="list-style-type: none"> <li>Daily visual inspection</li> <li>Once every six month</li> </ul>	Resident Engineer	PMO	1,000
2	Noise	Investigate noise complaints from workers and neighboring communities in the affected locations	<ul style="list-style-type: none"> <li>Recorded and documented complaints</li> <li>Recorded tests results</li> </ul>	<ul style="list-style-type: none"> <li>Weekly inspection of complaints</li> <li>Only in case of complains</li> </ul>	Resident Engineer	PMO	1,000
3	Water resources	<ul style="list-style-type: none"> <li>Investigate implementation of mitigation measures and observe any oil or fuel spills.</li> <li>Investigate wastewater disposal measures</li> </ul>	Site Investigation report	Daily Investigation	Resident Engineer	PMO	No cost
4	Soil	<ul style="list-style-type: none"> <li>Observe any soil contamination with oil or fuel</li> <li>Observe any accumulation of wastes</li> </ul>	Site Investigation report	Monthly	Resident Engineer	PMO	No cost
5	Solid and hazardous wastes	<ul style="list-style-type: none"> <li>Maintain records on waste types and quantities</li> <li>Observe any waste accumulation in un approved locations</li> </ul>	<ul style="list-style-type: none"> <li>Waste management contracts with authorized contractors</li> <li>Waste delivery receipts from local authorities.</li> </ul>	<ul style="list-style-type: none"> <li>Weekly</li> <li>Weekly</li> </ul>	Resident Engineer	PMO	No cost
6	Health and safety	<ul style="list-style-type: none"> <li>Ensure compliance of workers to Health and Safety requirements</li> <li>Maintain log on accidents</li> </ul>	Observation report Accidents report	Weekly	Resident Engineer	PMO	No cost
7	Flora & Fauna	Record any observation about wild animals or plants on site or nearby	Observation report	Upon occurrence	Resident Engineer	PMO	No cost

Receptor		Monitoring Activities	Monitoring Indicators	Frequency	Responsibility	Supervision	Total estimated Cost in US\$
		and report to the Environmental Authority					
8	Topography and landforms	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
9	Traffic	Ensure speed limits and warning signs are installed	Road signs are installed.	Monthly	Resident Engineer	PMO	No cost
10	Handling Complaints	Ensure that the GRM is effective and well communicated	Number of complaints received, analyzed and responded to.	Weekly	Resident Engineer	PMO	No cost
11	Child labor and Gender Based Violence	<ul style="list-style-type: none"> <li>Ensuring that children and minors are not employed directly or indirectly on the project.</li> <li>Ensure to prevent misconducts, including prevention of sexual harassment and gender based violence.</li> </ul>	<ul style="list-style-type: none"> <li>A copy of IDs of laborers and labor registry.</li> <li>Percentage of workers that have attended the code of conduct training and number of GBV training delivered.</li> </ul>	<ul style="list-style-type: none"> <li>Daily</li> <li>Weekly</li> </ul>	Resident Engineer	PMO	No cost
<b>Total cost US\$ (Operation phase)</b>							<b>2,000</b>

Table 7: Monitoring Activities during Operation Phase

Receptor		Monitoring Activities	Monitoring Indicators	Frequency	Responsibility	Supervision	Total estimated Cost in US\$
1	Air quality	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	No cost
2	Noise	Investigate noise from vibration or humming noise in the affected locations	<ul style="list-style-type: none"> <li>Recorded and documented complaints</li> <li>Recorded tests results</li> </ul>	Only in case of complains	Resident Engineer	Local authorities	No cost

Receptor		Monitoring Activities	Monitoring Indicators	Frequency	Responsibility	Supervision	Total estimated Cost in US\$
3	Water resources	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	No cost
4	Soil	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	No cost
5	Solid and hazardous wastes	<ul style="list-style-type: none"> <li>Maintain records on waste types and quantities</li> <li>Observe any waste accumulation in un approved locations</li> </ul>	<ul style="list-style-type: none"> <li>Waste management contracts with authorized contractors</li> <li>Waste delivery receipts from local authorities.</li> </ul>	Weekly	Resident Engineer	Local authorities	No cost
6	Health and safety	<ul style="list-style-type: none"> <li>Ensure compliance of workers to Health and Safety requirements</li> <li>Maintain log on accidents</li> </ul>	Observation report Accidents report	Weekly	Resident Engineer	Local authorities	No cost
7	Flora & Fauna	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	No cost
8	Topography and landforms	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	No cost
10	Handling Complaints	No monitoring required	Not applicable	Not applicable	Not applicable	Not applicable	No cost
11	Child labor and Gender Based Violence	<ul style="list-style-type: none"> <li>Ensuring that children and minors are not employed directly or indirectly on the project.</li> <li>Ensure to prevent misconducts, including prevention of sexual harassment and gender based violence.</li> </ul>	<ul style="list-style-type: none"> <li>A copy of IDs of laborers and labor registry.</li> <li>Percentage of workers that have attended the code of conduct training and number of GBV training delivered.</li> </ul>	Weekly	Resident Engineer	Local authorities	No cost
<b>Total cost US\$ (Operation phase)</b>							<b>No cost</b>

The environmental and social consultant will prepare a monthly environmental and social supervision report after conducting site supervision visits.

On quarterly basis, PMO shall prepare an environmental and social progress report which will be submitted to the international financial institution (WB) for review and disclosure.

#### 7.4 Capacity Development and Resources Requirements

PMO dedicated sufficient human resources to undertake the environmental and social management requirements as explained above. The assigned staff at the central and field levels are competent in the field of engineering and have variable practical experience. For the staff who will be responsible for undertaking the environmental and social tasks, they will require some capacity development.

All construction personnel and contractors are required to undertake appropriate environmental training and induction programs including, importantly, on GRM procedures.

All managers and supervisors will be responsible for ensuring that personnel under their control have the requisite competencies, skill and training to carry out their assigned tasks in accordance with the requirements of the ESMP. They will also be responsible for identifying additional training and competency requirements.

All project supervisors and managers will receive additional detailed training on the use and implementation of the ESMP. The following Table presents the proposed institutional strengthening program and capacity development requirements.

Table 8: Capacity Development Requirements

Capacity development topic		Provider(s)	Duration	Estimated Cost (US\$)
1	Environmental Impact Assessment Environmental and social Management in Construction Sites	Consultant	3 Days	1,500
2	Iraqi Environmental Legal Requirements	Ministry of Environment	1 Day	500
3	World Bank Environmental and Social Safeguards	Consultant	2 Days	1,000
<b>Total Estimated Cost</b>				<b>\$3,000</b>

In order to ensure full compliance of the environmental and social requirements, regular site visits should be conducted. Dedicated office spaces, office equipment and supplies in addition to adequate means of transportation should be made available for the environmental and social management team at the central level and most importantly on the field level. MOP PMO should ensure the allocation of sufficient budget resources to ensure availing the required resources to achieve the required tasks.



## **8 PUBLIC CONSULTATION RESULTS**

### **8.1 Consultation Process:**

The public consultations were carried out in the nine villages for Rehabilitation of electricity distribution grid lines on 12 and 13 of October, 2019. The public consultations included only men and the number of participants was 95 in these villages. Accordingly, a questionnaire was formatted to cover the key environmental and social aspects related to the implementation of the electrical distribution grid lines. The consultation started by providing briefs about the subproject activities, potential impacts and future benefits.

In addition to public consultation, one on one interviews were conducted on 12 and 13 of October, 2019. The formatted questionnaire was then addressed to 17 women and 47 men in the surrounding community randomly to have their opinions and thoughts regarding the rehabilitation activities.

### **8.2 Consultation Results:**

All participants in these nine villages mentioned that the electrical distribution grid lines are damaged and the rehabilitation of these grid lines is a priority for them. Additionally, the participants from these villages agreed that, the rehabilitation of these electrical grid lines will have a positive impact on their social daily life. Please refer to annex 1 for public consultation photos, annex 2 for sample of public consultations in Al Aksheh Village and annex 3 for sample of individual interviews for both men and women.

The full list of participants for public consultations and individual interviews are attached in standalone document to reduce the size of the instrument.

As per the questionnaire prepared for individual interview, the below are the main findings.

- 1) All interviewed locals agreed that the rehabilitation activities of electrical distribution grid lines will serve all the people in the village and have a strong positive impact from the social perspectives on the locals. Moreover, one of the tribe's head confirms that the rehabilitation of electrical grid line is a priority to the village's people.
- 2) No claims from any locals were recorded or alleged regarding the ownership of the land where the electrical grid lines are constructed; all agreed that is governmental land property.
- 3) The project will contribute to strength the health awareness by avoiding the purchase of cold water which might be not sterilized in the summer, and keeping food and medicine in cool places to prevent the damage of these materials.
- 4) The project will contribute to increase the cultural and scientific awareness of the village residents by creating an opportunity for village students to perform their homework regularly and well.
- 5) They welcomed that there will be a hot line to express their suggestion or concern that might happen during the rehabilitation phase.
- 6) No vegetation covers, crops, plants, trees...etc. will be removed in order to execute the rehabilitation activities of the electrical grid lines.

- 7) The interests of the locals will not be affected in any way by the rehabilitation activities.
- 8) No infrastructure within the electrical grid lines area will be affected negatively due the reconstruction activities and there is no need for alternative roads.
- 9) No deportation, dislocation of any of the local community will be needed due to these activities.
- 10) The rehabilitation of the project will enhance the social relationship among the locals; improve their achievements and performance via the availability of electricity.

## 9 GRIEVANCE REDRESS MECHANISM (GRM)

The SFD is in the process of establishing a free hotline and is expected to be functioning within the next few months. SFD is planning to set up a digital system with multi-channels for receiving complaints, inquiries, feedbacks or comments like WhatsApp, Facebook, email and complain boxes for each subproject's site. Additionally, focal points will be assigned at local level and central level to be in charge of handling complaints.

Meanwhile, in order to comply with the WB requirements, SFD has temporary assigned three staffs as focal points with their cell phone numbers to be disseminated at each local level for receiving calls and handling complaints. The contact details will be posted at subproject signboard and the complaint boxes will be installed in each location as shown in the below table.

Table 9: Contact Information for GRM

#	Name	Job Title	Phone Number	E-mail
1	Kabil Hmood Abas	SFD Team leader	07812542417	Muth_planning@yahoo.com
2	Mohammed Thamer Fitan	GRM officer	07803008372	Muth_planning@yahoo.com
3	Yaser Mohammed Sehood	M&E officer	07812542417	Muth_planning@yahoo.com

The process of managing complaints will be as follows:

- 1- Complaints should be sorted out according to complexity;
- 2- Simple inquiries should be resolved on the spot by concerned staff members in 3-6 working days as a maximum and should be documented and archived as per the relevant procedure;
- 3- Complex issues should be investigated and communicated with higher management for final decisions within a timeframe of 20 working days as a maximum;
- 4- After the completion of the proceedings, the complaint is closed, and information is included in the system, including the action(s) taken and the result(s) required; and
- 5- The complainant shall be notified of the result and the action taken immediately and shall be informed of the possibility of objecting to the procedure.

In addition to Project Management Office (PMO) at the Ministry of Planning (MOP), and the project offices in governorate, and Community Development Groups (CDGs) at the local level, the World Bank's Grievance Redress System (GRS) can also be approached by any impacted person(s) for reporting and resolving issues.

## 10 ANNEXES

### 10.1 Annex (1): Public Consultations Photos

		
<p>During the public consultation at Abu Sarifah Village</p>	<p>During the public consultation at Abu Kanbara Village</p>	<p>During the public consultation at Al Thawihher Village</p>
		
<p>During the public consultation at Al Karim Village</p>	<p>During the public consultation at Al Khudra Village</p>	<p>During the public consultation at Al Tawawreh Village</p>



During the public consultation at Al  
Aksheh Village



During the public consultation at Finjan  
Al Thaher Village



During the public consultation at Dibis  
Village

## 10.2 Annex (2): Sample of Public Consultation at Al Aksheh Village

### تقرير فريق الاجراءات البيئية والاجتماعية

#### محافظة المنشي / قرية العكشة

#### مشروع (تأهيل الشبكة الكهربائية وفك اختناق في قرية العكشة)

وصف المشروع : تجهيز وتصب محولات عدد 6 مع كافة ملحقاتها واعادة كهرباء عدد / 80 واسلاك وقابلات كهرباء بطول مختلفة وقل مابنظيره العمل من مواد واجور عمل .

#### محضر اجتماع المشروع

1. إن المشروع سيساهم في تحسين الواقع الاجتماعي والاقتصادي للقرية من خلال توفير خدمة الكهرباء الى مساكن القرية وتقليل الاعباء الاقتصادية على كاهل سكان القرية بالإضافة الى تنشيط الواقع الزراعي ومساعدة القلاحين على اداء دورهم في زيادة انتاج المحاصيل الزراعية من خلال توفير الطاقة الكهربائية اللازمة لتشغيل المضخات الزراعية وإيصال الماء الى اراضي القلاحين بصورة مناسبة .
2. بين الشيخ ( سلام عبد الزهرة ) رئيس اللجنة المجتمعية حضور اللجنة اثناء عملية الكشف الموقعي وان المشروع هو اولوية اولى بالنسبة للقرية واكدت اللجنة عدم وجود اي تعارضات للمشروع المذكور انفا كونه سينفذ على اراضي خضعت للتفيع العام وخالية من اي بلى تحتية قد يسبب المشروع اي ضرر لها .
3. إن المشروع يخدم جميع سكان القرية دون استثناء .
4. المشروع لا يحتاج الى انشاء طرق جديدة حيث انه لا يؤدي الى غلق اي طرق داخل القرية .
5. لا يؤثر المشروع على الحياة البرية او البيئة الحيوية المحيطة بموقع المشروع وكذلك لا يؤدي الى قطع الاشجار او رفع المزروعات و لا يؤدي الى تغيير ديموغرافية المنطقة، رغم ذلك نؤكد على ضرورة الالتزام بجميع الاجراءات الوقائية البيئية اثناء تنفيذ المشروع .
6. رحبت اللجنة المجتمعية للقرية بوجود خط ساخن للمشروع مع الادارة التنفيذية للصندوق في حال حصول اي عارض.
7. المشروع لا يؤثر على الحياة الاقتصادية للمنطقة حيث لا توجد بالقرب من المشروع اي اعمال تجارية ستتوقف بل العكس تماما حيث ان توفير التيار الكهربائي المستقر سيؤدي الى تعاضد اقتصاد المنطقة
8. لا يوجد تجاوزات على ارض المشروع وكذلك إن المشروع لا يحتاج الى استملاكات أو تعويضات.
9. وجهت اللجنة المجتمعية شكرها للقائمين على المشروع لما له من اهمية كبرى في تسهيل حياة المواطنين اليومية .
10. ليس للمشروع اي اثار اجتماعية سلبية بل العكس فان المشروع سيؤدي الى زيادة التواصل بين اهالي القرية مما يؤدي الى زيادة التماسك و الترابط العائلي من خلال تقليل الاعباء اليومية الناتجة عن عدم توفر التيار الكهربائي المنتظم .

11. اكدت اللجنة المجتمعية على دعمها الكامل للمشروع و تقديم اي مساعدة ممكنة للقائمين على المشروع لتأهت تنفيذه .
12. اكدت اللجنة المجتمعية ان المشروع لا يؤدي الى اعادة توطين اشخاص او الاضرار بأي مواطن بل العكس .
13. المشروع سيساهم في زيادة الوعي الثقافي والعلمي لسكان القرية من خلال ايجاد الفرصة لطلاب القرية من اداء فروضهم الدراسية بشكل منظم و جيد
14. المشروع سيساهم في تعزيز الجانب الصحي ايضا وذلك من خلال تجنب شراء الماء البارد غير المعقم صيفا و حفظ الطعام و التواء في امكان مبردة تمنع تلف تلك المواد و غيرها من مردودات صحية .
15. بالرغم من كون التأثيرات البيئية لهذا المشروع قليلة جدا و محدودة الا اننا نؤكد على ضرورة اتخاذ جميع الاجراءات الوقائية البيئية المخصصة لهذا نوع من المشاريع خدمة لاهالي القرية .
16. لا يوجد متضررين سلبا من المشروع ولا يؤدي الى تغييرات ديموغرافية للشيخ الاجتماعي.
17. تم مناقشة اهالي القرية بجميع تفاصيل العمل بالمشروع و الاجابة عن كافة اسئلتهم و استفساراتهم اضافة الى الاستعلام منهم عن المشاكل التي تعاني منها القرية و بين الاهالي ان المشروع سيساعد على ايجاد الحل لتأجيل لاحتاج اهم مشاكل القرية
18. نرفق طبا صور لمنطقة المشروع وللجنة المجتمعية مطبوعة على (CD).
19. نرفق طبا استمارات الاستبيان للمشروع عند (10).

خط العرض	خط الطول
N 31° 40' 4.35"	E 45° 1' 17.23"
N 31° 40' 0.81"	E 45° 1' 12.88"

الترتيب	الاسم	التوقيع
1-	سلام عبد الزهرة / رئيس اللجنة	
2-	عقيل عيسى / عضو اللجنة	
3-	رياض محمد / عضو اللجنة	
4-	صادق عبد حمزة	
5-	عبد ر ثابت	
6-	رضي عيسى	
7-	صادق داخل / عضو اللجنة	
8-	جليل عبد الوهيد / عضو اللجنة	
9-	ناصر حسين / عضو اللجنة	
10-	خضر عبد الحسن / عضو اللجنة	
11-	قاسم عيسى	
12-	احمد حسين طه / عضو اللجنة	
13-	جبر عيسى / عضو اللجنة	

Annex (3): Sample individual interviews for both men and women

**(الستيان)**

اسم المشروع: **تحسين الشبكة الكهربية في منطقة إصطفاى / قرية ان الخيزمر**

الاسم: \_\_\_\_\_

الجنس: ذكر  أنثى

المهنة: **موظف**

ت	السؤال	نعم	كلا	الملاحظات
١	هل تعتقد ان عملية اعمار المشروع لها اثر ايجابية من الناحية الاجتماعية بالنسبة للسكان القاطنين في المنطق القريبة من المشروع	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٢	هل هناك اعمالات او مطالبات من قبل السكان المحليين بعلتنية الارض المقام عليها المشروع؟	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
٣	بسبب اعمار الاعصار ، هل هناك عمليات رفع لمجاصيل زراعية او اشجار او اي غطاء نباتي تعود عائلته لمواطني او السكان المحليين؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٤	هل تضررت مصالح المواطنين القاطنين بالقرب من المشروع بسبب اعمار الاعصار؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٥	هل هناك اي بنى تحتية دائمية او مؤقتة تلعب دورا اساسيا في التسلطات الحيوية اليومية للسكان مستأثر بعملية اعمار المشروع؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٦	هل ان اعمار اعصار المشروع ستنسب باجراءات اعادة توطين لشخص او لاشخاص الي مناطق جديدة؟	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
٧	هل تمت عملية استخدام ارض المشروع من قبل السكان المحليين، علما ان الارض تابعة للدولة؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٨	هل تتوقع وجود تأثيرات اجتماعية سلبية بالمنطقة نتيجة اعمار المشروع؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٩	هل هناك تغيير ديموغرافي او ضرر في التسويج الاجتماعي نتيجة عمليات الاعصار؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
١٠	هل يحتاج المواطنين القرييون من المشروع لوضع علامات تحذيرية او استدالات لزيادة معدلات الامن؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

التوقيع: \_\_\_\_\_

الاسم: **محمد علي جباري**

التاريخ: 2019 / 1

**(الستيان)**

اسم المشروع: **تحسين الشبكة الكهربية في منطقة إصطفاى / قرية ديسر**

الاسم: **هدرا هادي زابير**

الجنس: ذكر  أنثى

المهنة: **ريجيستري**

ت	السؤال	نعم	كلا	الملاحظات
١	هل تعتقد ان عملية اعمار المشروع لها اثر ايجابية من الناحية الاجتماعية بالنسبة للسكان القاطنين في المنطق القريبة من المشروع	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٢	هل هناك اعمالات او مطالبات من قبل السكان المحليين بعلتنية الارض المقام عليها المشروع؟	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
٣	بسبب اعمار الاعصار ، هل هناك عمليات رفع لمجاصيل زراعية او اشجار او اي غطاء نباتي تعود عائلته لمواطني او السكان المحليين؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٤	هل تضررت مصالح المواطنين القاطنين بالقرب من المشروع بسبب اعمار الاعصار؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٥	هل هناك اي بنى تحتية دائمية او مؤقتة تلعب دورا اساسيا في التسلطات الحيوية اليومية للسكان مستأثر بعملية اعمار المشروع؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٦	هل ان اعمار اعصار المشروع ستنسب باجراءات اعادة توطين لشخص او لاشخاص الي مناطق جديدة؟	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
٧	هل تمت عملية استخدام ارض المشروع من قبل السكان المحليين، علما ان الارض تابعة للدولة؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٨	هل تتوقع وجود تأثيرات اجتماعية سلبية بالمنطقة نتيجة اعمار المشروع؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
٩	هل هناك تغيير ديموغرافي او ضرر في التسويج الاجتماعي نتيجة عمليات الاعصار؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
١٠	هل يحتاج المواطنين القرييون من المشروع لوضع علامات تحذيرية او استدالات لزيادة معدلات الامن؟	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

التوقيع: \_\_\_\_\_

الاسم: **هدرا هادي زابير**

التاريخ: 2019 / 1