REPUBLIC OF IRAQ

MINISTRY OF PLANNING

Iraq Social Fund for Development SFD (P163108)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

FOR THE

CONSTRUCTION OF
A TOTAL OF 10.55 KM RURAL ROADS IN THREE
VILLAGES (ALBU MARJAN, AL-ATAA, AND ALMEZAREEJ)

IN AL-DIWANIYAH GOVERNORATE

29TH **NOVEMBER 2021**

Contents

Project Title	3
Introduction	3
Project Location	4
Project Duration	7
Proposed Project Activities	7
Land Use and Acquisition	7
Contactor's Camp	7
Geographic Conditions	8
Climate, Air Quality and noise	8
Hydrogeology Conditions	8
Ecology Conditions	9
Heritage Environment	9
Socio-economic Aspects	9
National & Local Legislation and World Bank Policies that Apply to the Project	9
Public Consultation Process	13
Consultation Results:	13
GRM Process	14
PART B: SAFEGUARDS SCREENING AND TRIGGERS	17
PART C: MITIGATION MEASURES/ CONSTRUCTION PHASE	18
MITIGATION MEASURES/ OPERATION PHASE	22
PART D: MONITORING PLAN/ CONSTRUCTION PHASE	23
ANNEXES	29
Annex 1: Consultations Photos	30
Annex (2): Sample individual interviews for both men and women	31
ANNEY (3): IRAOI STANDARDS FOR AIR NOISE and Water	25

IRAQ: Social Fund for Development Project PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country	IRAQ			
Project Title	CONSTRUCTION OF A TOTAL OF 10.55 KM RURAL ROADS IN THREE VILLAGES (ALBU MARJAN, AL-ATAA, AND AL-MEZAREEJ) IN AL-DIWANIYAH GOVERNORATE			
Introduction	Iraq faces a historic opportunity for national reconciliation through the effective delivery of critical social services, economic growth and recovery programs. The reinstatement of trust between the State and its citizens is highly dependent on the Government of Iraq (GOI) demonstrating its capacity to deliver security, jobs and economic growth to all Iraqis, with a focus on the poor, the vulnerable and the millions of Internally Displaced People (IDP). The GOI, represented by the Ministry of Planning (MOP), requested the World Bank's support in the design and financing of a Social Fund for Development (SFD) project to support locally driven initiatives to improve the living conditions and opportunities of the poor and most vulnerable in Iraq. The GOI has demonstrated its commitment and support to the design of this operation and established a high-level national team to guide and coordinate the development and institutionalization of the SFD, as well as five technical teams to work on the different aspects of the fund. The Project Development Objectives (PDOs) are to: (1) Improve access to basic services and; (2) Increase short-term employment opportunities, in targeted communities. This environmental and social management checklist reflects the main issues (project description and activities, baseline conditions, impact analyses, mitigation measures and monitoring arrangements). The main objective of this document is to examine the environmental and socio-economic impacts of the project (both construction and operation phases), and to propose mitigation measures. The project is expected to result in significant socio-economic benefits for the local communities and surrounding areas in addition to develop social awareness, group responsibility.			

PROJECT LOCATION & SITE DESCRIPTION

According to the Environmental and Social Management Framework (ESMF) which was prepared for the Iraq Social Fund for Development Project disclosed locally in Iraq and on the World Bank's website. Environmental and Social Management plan (ESMP)/ Environmental and Social Management Checklist should be prepared, cleared, publicly consulted and disclosed prior to the commencement of any rehabilitation activity. The World Bank Operational Policy 4.01 on Environmental Assessment was triggered as the proposed Subprojects has some potential negative environmental and social impacts. Accordingly, this Environmental and Social Management Checklist is required to implement the Sub-project in accordance with the requirements of the World Bank's Operational Procedures and applicable Iraqi national legislation.

Project Location

The subproject is located in the governorate of Al-Diwaniyah that is situated in Mid-South part of Iraq, Al-Diwaniyah borders Saudi Arabia and shares internal boundaries with the governorates of Thi-Qar, Al-Muthana, Babylon, Wasit, and Al-Najaf (as shown in figure below). The proposed location of these rural roads will be in an open area. The upgrading of the projects will use the exact footprint of the existing roads and no widening of the roads will occur.

The length of each road, coordinates, and the population in each village are shown in the table below:

Table 1: Information about the villages

No.	Village	Length	Populatio	Coordinates
		(Km)	n	
1	ALBU	9.750	1050	N 32 4 59.6
	MARJAN	3.750	1656	E 45 7 20.3
2	AL-ATAA	4.300	2000	N 31 56 1.8
		4.500	2000	E 44 54 23.5
3	AL-	2.500	886	N 32 1 15.7
	MEZAREEJ	2.500	000	E 44 51 4.0
Total		10.55		



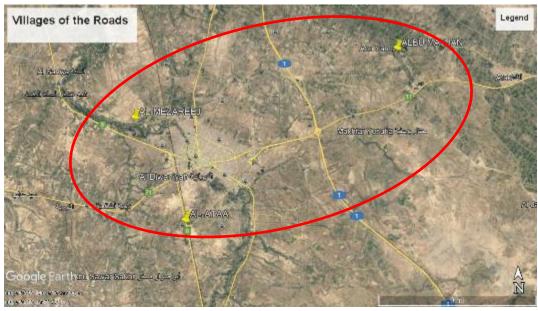


Figure 1: Project Location

The area adjacent to these subprojects' sites are characterized as rural residential and semi desertic to agricultural in some area. 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.

There are no close sensitive receptors located to the subprojects site. The subprojects will improve the transportation infrastructure in these villages by providing asphalt surface to facilitate transport for local communities and road users. Moreover, the road will help the students to go to their schools easily. It important to mention that these roads are within the villages as a network, therefore the other roads can be used as alternative roads.



Albu Marjan



Al-Ataa



Al-Mezareej

Figure 2: Road in Albu Marjan, Al-Ataa, And Al-Mezareej Villages

Project Duration	The anticipated duration of all works is around 180 days for Al-Ataa Village and 120 days for the Albu Marjan and Al-Mezareej Villages including mobilization and demobilization of contractors.
Proposed Project Activities	Construction of the road will include the following activities: 1. The surface needs to be completely clean and clear after backfilling with clean soil. The total width of the existing roads is 6 m and one lane in each direction. 2. Providing materials (gravel) to create double layer of subbase (each one is 15cm in thickness) and well compacted. The sub base provides a stable surface to support new pavement. 3. Binder will be added after the sub base is laid and any soft areas are identified and repaired. 4. Once the supportive structures of a new asphalt surface are installed, the top layer of fresh asphalt (10 cm in thickness) is added to provide a clean and smooth ride. 5. The expected machineries and equipment are: Wheel Loader, Motor Grader, Asphalt Pavers, and roller machine. 6. Its important to mention that all the raw materials that will be used in the construction of the roads are from an authorized quarry.
Land Use and Acquisition	The area adjacent to the project site is characterized as rural residential and semi desertic to agricultural area. However, the construction activities will not cause an impact on agricultural area or make any crop damage. The road will be constructed on state land and hence there are no issues related to land acquisition. The implementation activities will not cause relocation of people, vendors, and any individuals.
Contactor's Camp	The construction of the road 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. A portable holding tanks will be installed in the subproject, wastes will be collected and disposed in an authorized waste treatment plant/authorized disposing site to be determined later by the Municipality of Al-Diwaniyah. The contractor will establish his storage on vacant state-owned land for equipment and material within the area close to the construction area. The construction camp should have independent sources of water and electricity, and the adequate septic tank for sanitary effluent disposal. Due its geographical location, influx of workers to the subproject area is

	not expected. Most of the workers will be locals from the surrounding
	area and will return to their homes.
PROJECT BASELI	N CONDITIONS
Geographic Conditions	The terrain is characterized as flat. In the project area the elevation is about 21m asl. No natural land obstacles are presented in the subproject areas. The subprojects areas are free of mountains, cliffs, and valleys.
	Al-Diwaniyah governorate is located in the Mid-South part of Iraq. The city of Diwaniya is located in the southern part of Iraq, about 180 km south of Baghdad, located on a branch of the Euphrates River called Shatt Al-Diwaniya
Climate, Air Quality and noise	The climate is the most important factor affecting the quality of surface water, groundwater and the hydrological cycle in the study area. The prevailing climate is the continental climate, characterized by the area of study, the summer is hot and dry, and the winter is cool with little rainfall. It is characterized by high rates of air temperature and high-temperature differences between daytime and night as well as between winter and summer. It is also characterized by varying relative humidity. The year is divided into two influential seasons. A long warn dry summer, a short cold rainy winter cold season and sunny weather often year-round. The major rain falls from November thru February, with a spread showering in March. During the year, about 104 mm of precipitation falls annually, while the average annual temperature is 22.7 °C. The driest weather is in June, July & August, September when no rainfall (precipitation) occurs. While, the wettest weather is in February & March when rainfall (precipitation) occurs. These subprojects sites are located in open areas, so the expected concentration of air pollutants is 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 (Annex3). Currently, there is no traffic congestion and consequently the existed noise level is within the normal levels.
Hydrogeolog	Flooding of the area near the project has not been reported in the past
y Conditions	years. The depth of ground water in the area ranges of about 20 meters.

Ecology	The project areas does not contain any globally important habitats or						
Conditions	ecosystems. There are no Nature Reserves or other legally protected						
Conditions	areas in the vicinity of the project or in a close proximity.						
TT	There are no sites of historical or cultural importance in the area.						
Heritage	There are no cemeteries, historical-cultural monuments, churches,						
Environment	mosques near the project that need to be removed or will be impacted						
	due to the rehabilitation activities.						
	The population of these projects area is approximately 4500. The						
	suggested areas of the roads will be on state land, where no land or						
	property expropriation will be necessary and is free from encroachers or						
	squatters. All the areas around the sites remain clear of any settlement						
Socio-	or economic use and are ready for construction works, no interference is						
economic	registered from the local community which is eager for the works to be						
Aspects							
1	completed. It is important to mention that during the construction of						
	the road, it is not expected to cause restriction of access or livelihood						
	impacts. Some of the population have a degree or equivalent to						
	Bachelor level, and some have equivalent to middle school., some of						
	them operating small businesses and they have only a few years of						
	basic education.						
LEGISLATION & P	OLICIES						
	 The applicable national legislation is as following: The Law for the Protection and Improvement of Environment 						
	No. 27, 2009;						
	Ministry of Water Resources Law No. 50 of 2008;						
	 Public Health Law No. 89 of 1981, amended by Resolution 						
	No.54 of 2001;						
N	Law no. 37 of 2008 regarding to Ministry of Environments						
National &	(MoE) roles and responsibilities.						
Local	Law No.3,1997 regarding to Environment protection						
Legislation	Regulation for the Provision of Water Resources, No. 2, 2001;						
and World	Regulation for the Protection of Rivers No. 25, 1967;						
Bank	➤ Instructions No. 2 of 2014 on Environmental Protection from						
Policies that	Municipal Waste;						
	➤ Instructions no. 3 of 2015 on Hazardous Waste Management;						
Apply to the	Law No. 6 of 1988 concerning the National Commission for						
Project	Occupational Hygiene and Safety;						
	➤ Instructions No. 12 of the year 2016: Occupational Health and						
	Safety;						
	➤ Labor Law No. 37 of 2015;						
	Law no. 89 of the year 1981, amended by Decree No.54 of						
	2001: Public Health;						
	➤ Law No. 41 for the year of 2015: Noise Protection and Control;						

- ➤ Public Roads Law No. 35 of 2002;
- ➤ Instructions No.3 of 2012: National Emissions' Determinants for Activities and Businesses by the Ministry of Health and Environment;
- ➤ Regulation No. 4 for the year of 2012: Ambient Air Quality;
- ➤ The main WB safeguard policies applicable for SFD are:
- > OP 4.01 Environmental Assessment
- ➤ OP 4.12 Involuntary Resettlement (There might be a probability of storage of construction materials in main rural roads. Until the date of report development, no land acquisition is anticipated.).
- ➤ OP 4.11 Physical and Cultural Resources (The proposed construction activities are not expected to pose risks of damaging cultural property).
- labor influx guidance note (2016).
- > WB General Environmental, Health, and Safety guideline¹

The EHS guidelines entails the effective methods for managing environmental, health and safety issues in accordance with WBG requirements. This includes understanding the likelihood, magnitude and priority of the EHS risks. The EHS guidelines includes 4 primary sections and respective sub sections (applicable segments from the EHS guidelines for the sub-project are highlighted in **Red**):

1. Environmental Guidelines

- a. Ambient Air Quality Limits and Guidelines
- **b. Energy Conservation** Energy Conservation and Efficiency Methods
- c. Wastewater and Ambient Water Quality Effluent water quality and indicators for water discharge and treatment
- **d.** Water Conservation Methods for ensuring reduction in water consumption
- **e. Hazardous Material Management** The appropriate Methods for managing hazardous waste and instructions on community and worker protection
- **f. Waste Management** Instructions on waste management and planning, waste prevention and safe waste disposal

¹ https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM

- **g.** Noise Methods for prevention and control of Noise, and the applicable noise limits for different activities and exposure period
- h. Contaminated Land Management approaches for contaminated land due to different hazardous substances or waste or oil. Includes Risk Reduction measures
- 2. Occupational Health and Safety Guidelines²
 - a. General Facility Design and Operation ensuring appropriate facility integration of H&S, that integrates safety measures in design for different physical hazards
 - **b.** Communication and Training Ensuring there is an appropriate level of communication between workers and management, and that there is sufficient training for all workers prior to operations
 - **c. Physical Hazards** Methods for prevention of accidents or injuries that can occur due to exposure to mechanical or other physical works, including Noise and Vibrations
 - d. Chemical Hazards Injuries and accidents that could occur due to usage of chemicals and methods of protection and prevention. Includes management of fires and explosions
 - e. Biological Hazards Protection and Management of different biological agents
 - f. Radiological Hazards Management and Limits for Radiation Exposure
 - **g. PPE** Guidance on usage of PPE and clearly highlighting that it should be considered the last resort
 - h. Special Hazards Environments Guidance on Managing different environments that can present a risk to workers such as confined spaces.
 - i. Monitoring Efficient monitoring of occupational health and safety programs and mitigation measures. This includes the Occupational Accident Reporting frequency
- 3. Community Health and Safety Guidelines³
 - a. Water Quality and Availability Ensuring the

https://www.irc.org/wps/wcm/connect/eeb82b4a-e9a8-4ad1-9472-f1c766eb67c8/3%2BCommunity%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxTd

https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxyxhttps://www.ifc.org/wps/wcm/connect/eeb82b4a-e9a8-4ad1-9472-

- protection of nearby water resources such as groundwater and surface water sources.
- **b.** Structural Safety of the Project Potential Hazards that could occur due to poor design and methodology for dealing with those hazards. Includes the general approach that architects/structural engineers must follow to ensure community safety is considered during design
- **c.** Life and Fire Safety (L&FS) Ensuring that building design is in accordance with local regulations and requirements, and that it integrates Fire safety standards (more focused on buildings rather than infrastructure)
- **d.** Traffic Safety Includes the potential risks and impacts on traffic and from traffic that occurs due to the project. Includes recommend measures to deal with traffic risk
- **e.** Transport of Hazardous Material Approach and Guidelines for transporting hazardous material, including a hazard assessment and emergency response plan.
- **f. Disease Prevention** Includes the recommended interventions and methods to protect the community from communicable diseases and vector borne diseases
- **g. Emergency Response and Preparedness** This sub section requires a plan and response system in place to respond to any potential emergency that could occur due to the works or operation
- 4. Construction and Decommissioning Guidelines⁴
 - **a. Environment** covers the different environmental factors that could be affected by the construction activities including soil erosion, disturbance to water bodies, disturbance to air quality, wastewater discharges etc.
 - **b.** Occupational Health and Safety Different OHS risks due to construction or decommissioning works
 - **c.** Community Health and Safety Different Hazards that can occur due to the project and affect the surrounding community.
 - > Grievance Redress Service

PUBLIC CONSULTATION & GRIEVANCE REDRESS MECHANISMS

⁴ https://www.ifc.org/wps/wcm/connect/7d708218-2a9e-4fcc-879d-9d5051746e7d/4%2BConstruction%2Band%2BDecommissioning.pdf?MOD=AJPERES&CVID=nPtgy6x

The consultations were carried out in the village for construction of road on 3rd of May 2021. Due to the COVID-19 pandemic, it was unable to conduct a public consultation. Therefore, one on one interviews were conducted. Accordingly, a questionnaire was formatted to cover the key environmental and social aspects related to the subproject.

The purpose of conducting the consultation activities is to achieve the below:

- 1. Introduce the rehabilitation subproject of the road.
- 2. Disclose information regarding the Grievance Mechanism resources in place.
- 3. Discuss anticipated environmental and social impacts associated with the project.
- 4. Propose extensive mitigation measures to address potential environmental and social risks associated with the project activities.

Public Consultation Process

The formatted questionnaire was then addressed to 14 women and 36 men in the surrounding community randomly to have their opinions and thoughts regarding the construction activities.

Consultation Results:

All those interviewed expressed their support to the project. All interviewees expressed their hope that the completion of the project will lead to more goods moving through their areas. Therefore, they link the project with improving their living conditions and the development of the area economically. They also stressed the importance of providing a timetable for the completion of the project because they heard of many planned projects in their district but have not seen them being completed. The participants emphasized that they know that the project's benefits are far greater than its negative impacts and confirmed their willingness to cooperate with the project. All participants in the village expressed that the construction of the Road will have a positive impact on their social daily life. Please refer to Annex 1 and Annex 2 for sample of the consultations for both men and women in these villages. 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 construction activities of road

- will serve all the people in the village and have a strong positive impact from the social perspectives on the locals via improve their achievements and performance via simplifying the ways of communications.
- 2) One of the positive expected effects of the construction of the road is the increase in the number of students who will attend schools, leading to increase in the educational level of village's students.
- 3) No claims from any locals were recorded or alleged regarding the ownership of the land where the road will be constructed.
- 4) The construction of the project will enhance the economic situation of the people via saving transportation fares to achieve their daily requirements.
- 5) No infrastructure will be affected negatively due the construction activities and there is no need for alternative roads.
- 6) They welcomed that there is a hot line to express their suggestion or concern that might happen during the construction phase.
- 7) No vegetation covers, crops, plants, trees...etc. will be removed in order to execute the construction activities of the road.
- 8) No deportation, dislocation of any of the local community will be needed due to these activities.

GRM Process

The Grievance Redress Mechanism is a procedure that aims to facilitate the most satisfactory solution and/or guidance to stakeholders seeking to submit their comments or complaints.

Before the start of the project, local community members will be informed about the GRM via communication channels. For example, they will be informed verbally by their community leader or through social media online. Visible sign boards, hard copies of the GRM brochures, and online platforms will also be made available posting GRM-relevant contact information and an explanation of the grievance process.

The SFD established a central free hotline and it is functioning properly in addition to the email and WhatsApp application. The digital system with multi-channels for receiving complaints, inquiries, feedbacks or comments like WhatsApp, Facebook, email and complain boxes for each subproject. Additionally, GRM focal points will be assigned at local level and central level to be in charge of handling complaints. The focal point will maintain a log and report on grievance

management, which includes minutes of meetings, resolutions and recommendations as part of an annual project progress report.

The information for the central office is:

#	Name	Job Title	Phone	E-mail
			Number	
1	Omar AbdulSahib	GRM Team leader	07901336309 07700254941	Sfd.grm.iraq@gmail.com

Meanwhile, in order to comply with the WB requirements, SFD has assigned three staffs as focal points with their cell phone numbers to be disseminated at each subproject 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.

Contact Information for GRM

#	Name	Job Title	Phone	E-mail
			Number	
1	Ghalib Radhi	SFD Team	07812436945	Sfd.diw.iraq@gmail.com
	Ismaael	leader	07012430343	Sid.diw.iraq@gillari.com
2	Mhammed Qasim	Environmental	07714418010	diwaniyahplan@yahoo.com
	Abd	Officer	07714410010	uiwamiyanpian@yanoo.com
3	Zainab Ali	GRM Officer	07808447035	Zainabali1912@gmail.com
	Hussein	GIM Officer	07000447033	Zamaban1912@gman.com

The process of managing complaints will be as follows:

The grievance note should be signed and dated by the aggrieved person. Where the affected person is unable to write, s/he should obtain assistance from the community to write the note and mark the letter with his/her thumbprint. Individuals who submit their comments or grievances have the right to request that their name be kept confidential, though this may mean that the social officer in charge of the GRM is unable to provide feedback on how the grievance is to be addressed. However, an anonymous complaint can receive a code and should be investigated appropriately and treated courteously.

After receiving the comments and complaints, they will be summarized and listed in a Complaints/Comments Log Book, containing the name/group of commenter/complainant, date the comment was received, brief description of issue, information on proposed corrective actions to be implemented (if appropriate), and the date of response sent to the commenter/complainant. Complaints should be sorted out according to complexity; Significantly, the GRM classifies feedback in two categories high-level and standard, each has its own procedure as explained further below.

High-Level Feedback

Feedback received to be categorized as 'high' level instances will include issues that meet the following criteria:

- Incidents that caused or may potentially cause significant or great harm to the environment, workers, communities, or natural resources, including issues of gender-based violence;
- Incidents which entail failure to implement environmental and social measures with significant impacts or repeated non-compliance with E&S policies;
- Incidents for which failure to address may potentially cause significant impacts that are complex and/or costly to reverse; and
- Incidents that may result in fatality or some level of lasting damage or injury.

This type of feedback will be acknowledged, and an investigation will be launched by the PCU/PMO and any other relevant stakeholders with 24 hours during work days and within 48 hours if the feedback was received over the weekend. It should be noted that some types of incidents, including accidents and fatalities need to be reported to the World Bank. This guidance is provided in the Environment & Social Incident Response Procedures.

Standard-Level Feedback

If the identity of the aggrieved person is known and the grievance is classified as 'standard', the acknowledgement of grievance will be within 3 working-days and the response will be within 20 working-days (depending on the type of grievance i.e. high or standard). The GRM Social Officer will keep a grievance log and report on grievance management (i.e. minutes of meeting, recommendations, and resolutions made) as part of annual project progress reports. At the 20 business-day mark, if a complaint/question is still pending, the GRM focal point will provide an update to the aggrieved person and inform them of the reason of delay in resolving their case, and provide the date for which a response will be provided.

Aggrieved persons who are dissatisfied with the outcome of their complaint can appeal the decision by resubmitting their complaint to the GRM Social Officer within 30 working-days of receiving a response to the original submitted grievance. Subsequently, the GRM Social Officer and other relevant personnel have 30 working-days to investigate and address the issue. Additionally, the GRM Social Officer has 10 working-days to prepare a comprehensive response, including the findings of the investigation and the rationale of the determination. Accordingly, within a maximum of 40 working-

days, the appeal case should be closed.

Lastly, if the aggrieved person is still not satisfied with the solution provided, s/he has the option to go to court.

Individuals who submit their comments or grievances have the right to request that their name be kept confidential. An anonymous complaint will receive a code and should be investigated appropriately and treated courteously. Ensuring confidentiality when dealing with cases of gender-based violence GBV. In order to mitigate the GBV related issues/ complaints, there will be grievance mechanism sensitive to gender by assigning female GRM officer in case of facing any GBV incidents, in addition, all GRM officers/ focal points must be trained on how to handle SEA/SH related grievances.

In addition to PMO, the MOP, project offices in governorates, and Community Development Groups (CDGs), the World Bank's Grievance Redress System (GRS) can also be approached for reporting and resolving issues.

Disclosure activities

As soon as the site-specific Checklist gets clearance from the World Bank and approval from the Ministry of planning, the following disclosure procedures will be adapted. A final report, in English and Arabic, will be published on the WB, SFD and Ministry of Planning websites.

INSTITUTIONAL CAPACITY BUILDING

Will there be any capacity building?

[] N or [x]Y

It is recommended to provide safety trainings and induction sessions to the workers and engineers who will be employed throughout the rehabilitation phase. Moreover, there needs to be more training on GRM implementation in order to ensure its proper functioning in the future.

PART B: SAFEGUARDS SCREENING AND TRIGGERS

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS				
Will the	Activity / Typology	Status	Triggered Actions	
site activity	1. Re/construction of urban, inter-urban or rural roads	[X] Yes	This subproject is mainly rehabilitation	
include/in	2. Reconstruction of / impacts	[] Yes	of roads. The subproject doesn't entail any major	

volve any of the following?		on surface drainage system	[X] No	reconstruction or impact on Surface drainage system
	3.	Activities in Historic building(s) and districts	[] Yes [X] No	The rehabilitation activities do not take place anywhere near historic buildings or districts and
	4.	Required acquisition of land or temporary / permanent impacts on livelihoods	[] Yes [X] No	No land acquisition is required for this subproject as the activities will be taking the road will be constructed on state owned land.
	5.	Handling or presence of hazardous or toxic materials	[] Yes [<mark>X</mark>] No	There are no toxic or hazardous materials generated by the project.
	6.	Impacts on forests and/or protected areas	[] Yes [X] No	There are no forests or protected areas surrounding the subproject area.
	7.	Risk of unexploded ordinance (UXO)	[] Yes [X] No	An official clearance letter has been provided.
	8.	Traffic and Pedestrian Safety	[X] Yes [] No	If "Yes", see Part C

PART C: MITIGATION MEASURES/ CONSTRUCTION PHASE

No.	Potential Impacts	Mitigation Measures
1	General Conditions	 The local construction and environment inspectorates and communities have been notified of upcoming activities. 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). All guidelines from the WB and national instruction should be followed to prevent or mitigate the transmission of COVID-19 related to this context. All legally required permits have been acquired for construction and/or rehabilitation. The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighbouring residents and environment. Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) There is posted material indicating the nearest police station and hospital (with accident and emergency facilities). The contractor must take reasonable steps to prevent unauthorized people accessing the site. Prohibit the burning of waste on site. Provide a first aid kits in different places of the work site with the appropriate number of materials given the number of workers on site. The workers will be noted about the locations of the first aid kits. Providing extinguishers which distributed within the working area. If work involving the use of flammable materials is being carried out or any other material that might make any danger, stop people smoking and do not allow other work activities involving potential ignition sources to take place nearby. Providing site boundaries (if any) by installing suitable physical boundaries (barriers, tape or fence). Marking excavation holes (if any) with physical boundaries (barriers, tape or fence).

No.	Potential Impacts	Mitigation Measures
No.		15) The contractor should put up barriers or covers in the area of openings and excavations if any. 16) Site areas should be clear from explosive remnants of War (ERW) Unexploded Ordnance (UXO) before commencing the work in the site. 17) Everyone who works on any site must have access to adequate toilet and washing facilities, a place for preparing and consuming refreshments, and an area for storing and drying clothing and personal protective equipment (PPE). 18) Contractor to ensure PPE (personal protective equipment) is used by all workers on site. 19) Materials and equipment are tidily stacked, protected and covered where necessary. Additionally, there is adequate space for new materials to be stored in secured covered areas to avoid damage, theft, and to protect these items from weather conditions. 20) Ensure that distance is maintained between drivers and workers when unloading construction materials and recommend that drivers remain in their vehicles whenever possible to avoid COVID-19. 21) Appropriate signposting of the sites will inform workers of key rules and regulations to follow. 22) The contractor should provide full insurance coverage schema of all type of workers. The insurance should cover work related accidents (Injuries and fatalities) as well as insurance for third party. 23) Rigid obligations and penalties will be added to the contractor/subcontractors' contractual agreements in order to guarantee child labor is prohibited in the project. Penalties to be applied in cases where workers under the age of 18 are hired.
2	Generation, storage, disposal of constructio n, hazard, and domestic waste ⁵	 "Ensure appropriate drainage channels and gutters to avoid water-logging and address any access issues across such drainage channels. Waste collection and disposal pathways and sites will be identified for all major waste types expected from construction activities. Construction and demolition waste, if any, will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. Construction waste will be collected and disposed properly by licensed collectors to authorized area. The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible Contractor will reuse and recycle appropriate and viable materials Simple waste management plan for specific waste streams must be developed. General waste must be collected and transported to the approved disposal sites. Food wastes must be collected, where practicable, considering health and hygiene issues, for disposal off-site through licensed contractors. Waste containers must be located at each worksite with sufficient numbers.
3	Hazardous wastes and materials ⁶	 Hydrocarbons, including lubricants, which will be very limited and resulted just from machines/truck shall be collected for safe transport outside the site for recycling, transport or disposal at approved sites to be nominated by the Municipality and the Ministry of Health and Environment The site will be cleaned from all wastes frequently and wastes will be stored in safe containers until transported The waste shall be transported by specially licensed Transporters and disposed

⁵ https://www.ifc.org/wps/wcm/connect/456bbb17-b961-45b3-b0a7-c1bd1c7163e0/1-6%2BWaste%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwEW
https://www.ifc.org/wps/wcm/connect/90231ba8-5bb3-40f4-9255-eaf723d89c32/1-

<u>5%2BHazardous%2BMaterials%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwml</u>

No.	Potential Impacts	Mitigation Measures
		of in the special areas to be determined by the authority. 4) Paints containing solvents, solvents or lead-based paints might use for road furniture shall not be used as per requirements, instructions and coordination with the Ministry of Science and Technology 5) Empty containers of treatment chemicals shall be returned to suppliers.
4	Air quality ⁷	 Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust when necessary There will be no open burning of construction / waste material at the site. All machinery will comply with Iraqi emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites
5	$Noise^8$	 Construction noise will be limited to restricted times agreed to in the permit All the workers will be supplied with fully safety measures including earmuffs.
6	Runoff water and drainage systems	 Procedures will be put in place for rapid response to accidental spills of fuels, lubricants and other toxic or noxious substances, and for their recovery and appropriate disposal 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 the water resource.
_	Groundwat	Sewage from construction offices and rest areas will be collected in septic tanks and
7	er quality	transferred by trucks to the nearest sewage treatment plant by authorized contractors.
8	Traffic	 In compliance with national regulations, the Contractor will ensure that the construction site is properly secured and construction related traffic regulated. The site will be clearly visible and the public warned of all potential hazards by signposting and barriers / fencing Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement If required, active traffic management by trained and visible staff at the site for safe passage for the public Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction
9	Occupation al and community health & safety conditions	 Provide adequate signage to prevent accidental falling into open areas All guidelines from the WB and national instruction should be followed to prevent or mitigate the transmission of COVID-19 related to this context. The contractor should develop and implement "EHS Procedures". Include Construction OHS Plan (submitted and approved by the Resident Engineer) prior to the start of construction. It will address all the risks anticipated including, but not limited to: Working in confined space (inside sheet piles), Risk of sinking, Electrocution, and Safety of equipment. Deployment of HSE procedures for the construction personnel. Ensure that workers receive advice and instructions on how to conduct daily self-monitoring and report the most common symptoms for COVID-19. Create and train a COVID-19 response team, comprising contractors, managers and workers, with clear responsibility. During the loading and unloading of debris specific measures should be applied: Covering the trucks using polyethylene sheets to avoid the falling of debris Trucks should use unpopulated routes as much as possible

⁷ https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgvbS

8 https://www.ifc.org/wps/wcm/connect/4a4db1c5-ee97-43ba-99dd-8b120b22ea32/1-

^{7%2}BNoise.pdf?MOD=AJPERES&CVID=nPtgwZY

No.	Potential Impacts	Mitigation Measures
		 For proper implementation of Community Health and Safety mitigation measures during construction, it is essential to establish and sustain an open and transparent dialogue between MoP/contractor and the affected communities in full compliance with the WB standards related to stakeholder engagement activities. It is necessary to put signs telling the citizen that the road is undergoing paving and that the alternative route should be identified. Apply the concept of universal access to the design and construction of buildings or any structures where technically and financially feasible (i.e. access to all users, including persons with disabilities such as wheelchair users) A grievance mechanism should be made available to community people Rigid obligations and penalties will be added to the contractor/subcontractors' contractual agreements in order to have the contractors adhere to all World Bank policies and regulation and is in compliance with measures listed in the ESMP.
10	Social Impacts	 Reducing impacts on the community through community and neighbour engagement. Provide the proper GRM for handling complaints
11	Child labor and Gender Based Violence	 Rigid obligations and penalties will be added to the contractor contracts in order to warrantee no child labor exist in the subproject 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). 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 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. Implement all facets of the established grievance mechanism, ensuring anonymous channels are available.

MITIGATION MEASURES/ OPERATION PHASE

In	mpact Mitigation Measures		Responsibility	Supervision	Total estimated Cost in US\$
1	• Air quality	• During the license issuance or renewal process of vehicles, traffic		Traffic	No direct
2	• Noise	 authorities to ensure that all vehicle engines are in good conditions. During the license issuance or renewal process of vehicles, traffic authorities should ensure that all vehicle engines are in good conditions. Speed limits should be reduced especially near residential buildings. Limit trucks movement especially at night in coordination with the local traffic authorities. 	Department Traffic Department	Department Traffic Department	No direct cost
3	Solid and hazardous wastes	 During the operational period, some littering and waste generation resulting from the repair activities will occur. Littering may occur due to wind action. All waste should be deposed through licensed haulers/transporters to licensed and regulated landfill sites appropriate to the type of waste generated 	Local Authority	Local Authority (Municipality)	Within municipal budget
4	Flora & Fauna	Not applicable	Not Applicable	Not Applicable	Not Applicable
5	Topography and landforms	Not Applicable	Not Applicable	Not Applicable	Not Applicable
6	Complains	The continued operation of a GRM for one year following operating of the Road 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
7	Health and Safety	 Provision signage to improve visibility and overall safety of roads, particularly along stretches located near Roads or other locations where children may be present. Having a clear set of emergency Plan and Procedures. provision of health and safety information; regular inspection, review and recording of EHS performance; 	Resident engineer Contractor And safeguard Specialist		Included in contractor cost
		Total cost US\$ (Operation phase)			No Cost

PART D: MONITORING PLAN/ CONSTRUCTION PHASE

	Potential	Potential		Respon	Responsibility		Cost in USD
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring
1	General Conditions	 The local construction and environment inspectorates and communities have been notified of upcoming activities 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) All legally required permits have been acquired for construction and/or rehabilitation The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighbouring residents and environment. Workers' PPE will comply with international good practice (Always hardhats, as needed masks and safety glasses, harnesses and safety boots) There is posted material indicating the nearest police station and hospital (with accident and emergency facilities). The contractor must take reasonable steps to prevent unauthorized people accessing the site. Prohibit the burning of materials on site. Provide a first aid kits in different places of the work site with the appropriate number of materials given the number of workers on site. The workers will be noted about the locations of the first aid kits. Providing extinguishers which distributed within the working area. If work involving the use of flammable materials is being carried out or any other material that might make any danger, stop people smoking and do not allow other work activities involving potential ignition sources to take place nearby. Providing site boundaries (if any) by installing suitable physical boundaries (barriers, tape or fence). Marking excavation holes with physical boundaries (barriers, tape or fence) The contractor should put up barriers or covers in the area of openings and excavations. 	Bi-monthly: record of all the licenses and permits obtained; Compliance with the HSE requirements	Contractor	Resident Engineer Safeguard Specialist	No additional cost	No additional cost

	Potential			Respon	sibility	Additional	Cost in USD	
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring	
		 16) Store building materials (such as pipes, manhole rings, and cement bags) so that they cannot topple or roll over. 17) Everyone who works on any site must have access to adequate toilet and washing facilities, a place for preparing and consuming refreshments, and an area for storing and drying clothing and personal protective equipment (PPE). 18) Contractor to ensure PPE (personal protective equipment) is used by all workers on site. 19) Materials and equipment are tidily stacked, protected and covered where necessary. Additionally, there is adequate space for new materials to be stored in secured covered areas to avoid damage, theft, and to protect these items from weather conditions. 20) Appropriate signposting of the sites will inform workers of key rules and regulations to follow. 21) All Practical measures to help employers, workers and the self-employed prevent and mitigate the transmission of COVID-19 in construction work should be followed. 22) All guidelines from the WB and national instruction should be followed to prevent or mitigate the transmission of COVID-19 related to this context. 23) The contractor should provide full insurance coverage schema of all type of workers. The insurance should cover work related accidents (Injuries and fatalities) as well as insurance for third party. 24) Rigid obligations and penalties will be added to the contractor/subcontractors' contractual agreements in order to guarantee child labor is prohibited in the project. Penalties to be applied in cases where workers under the age of 18 are hire 						
2	Generation , storage, disposal of constructio n, hazard, and	Waste collection and disposal pathways and sites will be identified for all major waste types expected from robabilitation activities.	Weekly site inspections and verifying the records on waste disposal	Contractor	Resident Engineer And safeguard Specialist	No additional cost	No additional cost	

	Potential			Respon	Responsibility		Additional Cost in USD	
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring	
	domestic waste	 The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible Contractor will reuse and recycle appropriate and viable materials Simple waste management plan for specific waste streams must be developed. General waste must be collected and transported to local council approved disposal sites. Food wastes must be collected, where practicable, considering health and hygiene issues, for disposal off-site through licensed contractors. Waste containers must be located at each worksite with sufficient numbers. Guidelines from the WB and national instruction should be followed to prevent or mitigate the transmission of COVID-19 related to this context. 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. 						
3	Handling of hazardous wastes and materials	1) Hydrocarbons, including lubricants, which will be very limited and resulted just from machines/truck shall be collected for safe transport outside the site for recycling, transport or disposal at approved sites to be nominated by the Municipality and the Ministry of Health and Environment	Weekly site inspections and verifying the records on waste disposal	Contractor	Resident Engineer And Safeguard Specialist	No additional cost	No additional cost	
4	Deteriorati on of	Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to	Ambient air quality test, 1 time prior to	Contractor	Resident Engineer	Additional cost of	Testing done by	

	Potential			Respon	sibility	Additional	Cost in USD
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring
	air quality ⁹	reduce debris dust 2) 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 3) The surrounding environment (sidewalks, roads) shall be kept free of soil and debris to minimize dust 4) There will be no open burning of construction / waste material at the site. 5) All guidelines from the WB and national instruction should be followed to prevent or mitigate the transmission of COVID-19 related to this context. 6) All machinery will comply with Iraqi emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites	construction to obtain the baseline Air quality parameters: PM10, PM2.5, SO2, NOx, CO, Ozone and HC Compliance with dust abatement measures (Annex 3)		Safeguard Specialist	water 500	accredited Laboratorie s. Additional cost 750 US
5	Increased level of noise ¹⁰	 Construction noise will be limited to restricted times agreed to in the permit All the workers will be supplied with fully safety measures including earmuffs. Compliance with the time limitations; Switching off the equipment not in use; Use of protective gear 	Weekly site inspection (Annex 3)	Contractor	Resident Engineer And safeguard Specialist	No additional cost	No additional cost
6	Disruption of the runoff water and drainage systems	 Procedures will be put in place for rapid response to accidental spills of fuels, lubricants and other toxic or noxious substances, and for their recovery and appropriate disposal 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; 	Weekly site inspection during rainy season; Bi-weekly site inspection during dry seasons: Signs of spillage of hazardous materials Testing in case of accidental spills of hazardous materials	Contractor	Resident Engineer And Safeguard Specialist	additional cost: contingenc y for removal of accidental hazardous spills 1000 US \$	No additional cost

https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgvbS 10 https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgvbS

	Potential			Respon	sibility	Additional	Cost in USD
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring
7	Deteriorati on of groundwat er quality	1) Sewage from construction offices and rest areas will be collected in septic tanks and transferred by trucks to the nearest sewage treatment plant (Annex 3)	Weekly site inspection during rainy season; Bi-weekly site inspection during dry seasons Water testing: in case of accidental spills of hazardous materials: pH, Turbidity, (EC), Color, Total Suspended Solids (TSS), (TDS), (COD), (BOD),	Contractor	Resident Engineer Safeguard Specialist	No additional cost	Testing done by Accredited Laboratorie s. Additional cost 500 US \$
8	Disruption of traffic	 In compliance with national regulations the Contractor will ensure that the construction site is properly secured and construction related traffic regulated. The site will be clearly visible and the public warned of all potential hazards by signposting and barriers / fencing 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. Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction 	Monthly site surveillance for the presence of fencing/barriers and warning signs, and traffic speed limitations	Contractor	Resident Engineer PMO	No additional cost	No additional cost
9	Deteriorati on of health & safety conditions	 Provide adequate signage to prevent accidental falling into open areas Fencing of the work areas. The contractor should develop and implement "EHS Procedures". Include Construction OHS Plan (submitted and approved by the Resident Engineer) prior to the start of construction. It will address all the risks anticipated including, but not limited to: Working in confined space (inside sheet piles), Risk of sinking, 	Inspection and photo evidence Maintaining records of injuries and accidents with cause and location	Contractor	Resident Engineer And Safeguard specialist	No additional cost	No additional cost

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¹¹ https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxyx

	Potential	Potential		Respor	nsibility	Additional Cost in USD	
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring
10	Social Impacts	Electrocution, and Safety of equipment. 5) To ensure worker safety, health insurance must be provided to all type of workers 6) All guidelines from the WB and national instruction should be followed to prevent or mitigate the transmission of COVID-19 related to this context. 7) Deployment of HSE procedures for the construction personnel 1) Reducing impacts on the community through community and neighbour engagement. 2) Provide the proper GRM for handling complaints. This GRM should be sensitive to gender and assure confidentiality. Specific engagement with women and girls that includes awareness on GBV and access to anonymous channels to report cases. Training GRM focal point on how to handle SEA/SH related grievances. 3) Ensure that the Worker's Code of Conduct and corresponding training concerning commitment of Labour towards the community and the different behavior that should be avoided emphasizes zero tolerance of gender-based violence (GBV) i.e., sexual harassment, sexual exploitation and sexual abuse.	Weekly monitoring of response to complaints Training on GRM GBV sensitive channel + attendance sheet	Contractor	Resident Engineer And Safeguard specialist	No additional cost	Purchasing of the required equipment \$750 UD
11	Child labor and Gender Based Violence	 Rigid obligations and penalties will be added to the contractor contracts in order to warrantee no child labor exist in the subproject 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). 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 	Inspection and Bi- weekly monitoring Signed Worker's Code of Conduct Trainings on Code of Conduct + attendance sheet GRM	Contractor	Resident Engineer And safeguard specialist	No additional cost	No additional cost

	Potential			Respon	sibility	Additional	Cost in USD
No.	Impacts	Mitigation Measures	Monitoring	Implement ation	Monitoring	Mitigation measures	Monitoring
	4) 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. 5) The monitoring of workers' compliance to the Code of Conduct when interacting with the surrounding communities to avoid behaviors such as GBV. 6) Implement all facets of the established grievance mechanism, ensuring anonymous channels are available.						
		Expected additional mitigation cost	s:			USD 1500	
		Expected monitoring cos	sts:				USD 2250

ANNEXES





Public Consultations at Albu Marjan Village



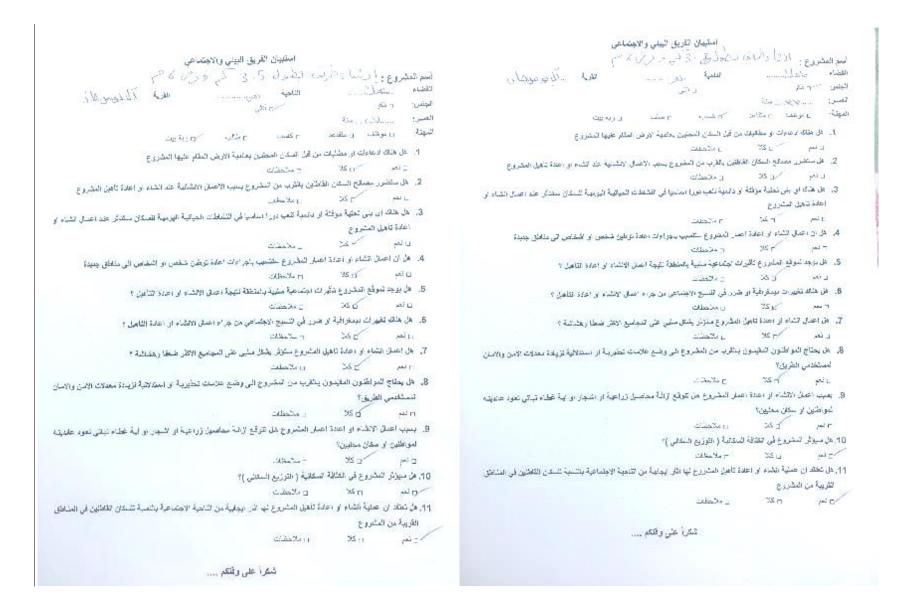
Public Consultations at Albu Marjan Village

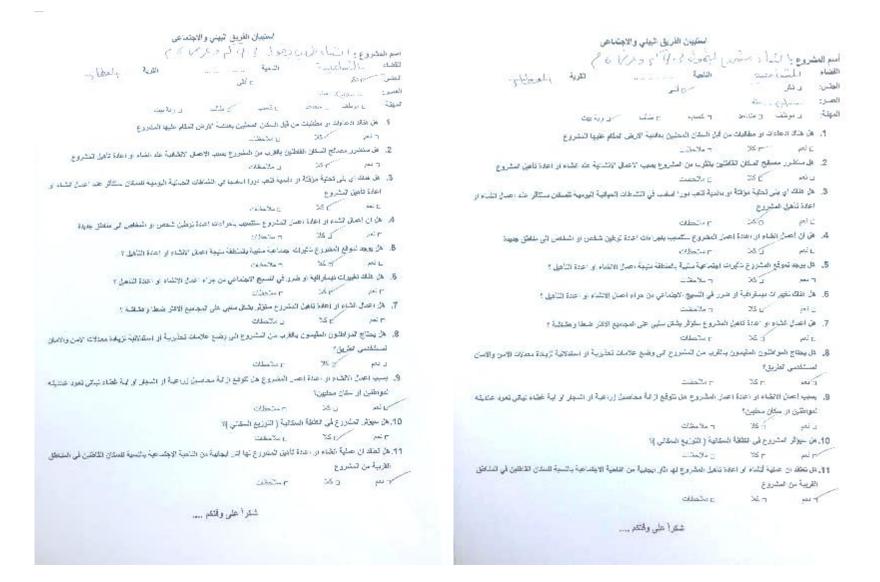


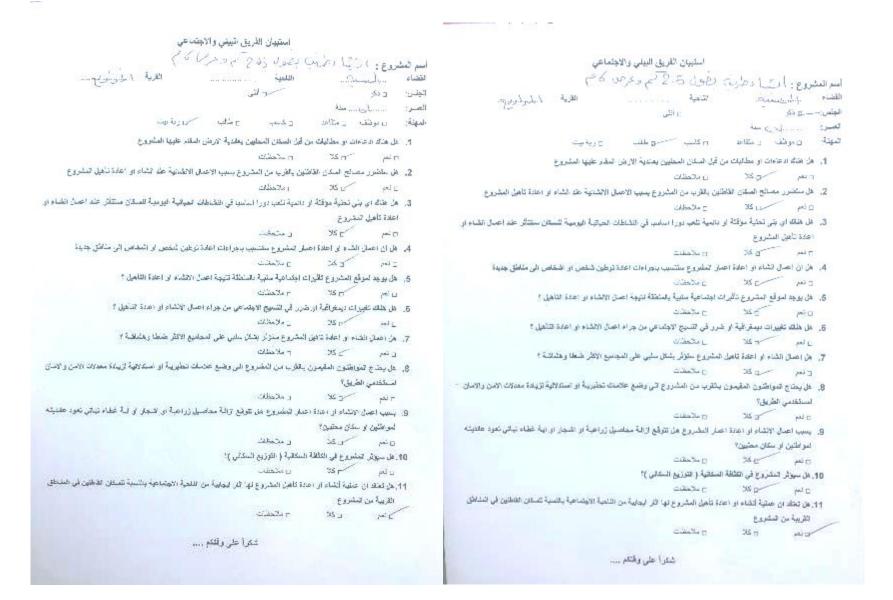
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Annex (2): Sample individual interviews for both men and women







ANNEX (3): IRAQI STANDARDS FOR AIR, NOISE, and Water

Ambient Air Quality Guidelines

Dallutant	Iraqi Standards		WHO Standards
Pollutant	Concentration	Average Time	Concentration
СО	10 ppm	8 hours	N/A
CO	35 ppm	1 hour	N/A
	0.1 ppm	1 hour	500 μg/m ³
SO ₂	0.04 ppm	24 hours	20 μg/m ³
	0.018 ppm	1 year	N/A
NO ₂	0.05 ppm	24 hours	200 μg/m³
NO ₂	0.04 ppm	1 year	40 μg/m ³
Ozone (O ₃)	0.06 ppm	1 hour	100 μg/m³
PM ₁₀	150 μg/m³	24 hours	50 μg/m ³
PM _{2.5}	65 μg/m ³	24 hours	50 μg/m ³
F IVI _{2.5}	15 μg/m ³	1 year	15 μg/m ³
Total Suspended	350 μg/m³	24 hours	N/A
Particles	150 μg/m³	1 year	N/A
	10 t/Km ² /month	30 days	N/A
Falling Dust	(Residential Zone)		
Talling Dust	20 t/Km ² /month	30 days	N/A
	(Industrial Zone)		
Hydrocarbons	0.24 ppm	3 hours	N/A
	2 μg/m³	24 hours	N/A
Pb	1.5 μg/m ³	3 months	N/A
	1 μg/m ³	1 year	N/A
Benzene	0.003 μg/m ³	1 year	N/A
Dioxin	0.6 pico g/m ³	1 year	N/A

Noise:

Law no. 41 of the year 2015: Noise Protection and Control / Noise Limits for Different Working Zones

Туре	Allowable (dB)
Industrial	70
Commercial	70
Residential	55

Water:

The table below shows the limits defined for discharges to both natural waters (water resources) and sewers (which generally have higher permissible discharge limits).

Pollutant	Limits for discharge to water resources	Limits for discharge to public sewers
Color	-	-
Temperature	Less than 35°C	45°C
Suspended solids	60	750
pH	6 – 9.5	6 – 9.5
Dissolved Oxygen (DO)	-	-
Biochemical Oxygen Demand (BOD)	Less than 40	1,000
Chemical Oxygen Demand (COD)	Less than 100	-
Cyanide (CN ⁻)	0.05	0.5
Fluoride (F ⁻)	5.0	10
Free Chlorine (Cl ₂)	Traces	100
Chloride (Cl ⁻)	 A. If the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the chloride concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B. If the ratio of the amount of water discharged to the amount of source water is more than 	600

Pollutant	Limits for discharge to water resources	Limits for discharge to public sewers
	 1000:1 the wastewater discharge must not exceed a chloride concentration of greater than 600 mg/L. C. If the concentration of chloride in the source water is less than 200 mg/L then the permitted discharge limit must be established on a case by case basis 	
Phenol	0.01 – 0.05	5 – 10
Sulfate (SO ₄ ²⁻)	 A. If the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the sulfate concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B. If the ratio of the amount of water discharged to the amount of source water is more than 1000:1 the wastewater discharge must not exceed a sulfate concentration of greater than 400 mg/L. C. If the concentration of sulfate in the source water is less than 200 mg/L then the permitted discharge limit must be established on a case by case basis 	300
Nitrate (NO ₃)	50	-
Phosphate (PO ₄ ³⁻)	3	-
Ammonium (NH ₄ ⁺)	-	-
DDT	Nil	-
Lead (Pb)	0.1	0.1
Arsenic (As)	0.05	0.05
Cupper (Cu)	0.2	-
Nickel (Ni)	0.2	0.1
Selenium (Se)	0.05	-
Mercury (Hg)	0.005	0.001
Cadmium	0.01	0.1
Zinc (Zn)	2.0	0.1

Pollutant	Limits for discharge to water resources	Limits for discharge to public sewers
Chromium (Cr)	0.1	0.1
Aluminum (Al)	5.0	20
Barium (Ba)	4.0	0.1
Boron (B)	1.0	1.0
Cobalt (Co)	0.5	0.5
Iron (Fe)	2.0	15
Manganese (Mn)	0.5	-
Silver (Ag)	0.05	0.1
Total Hydrocarbons & Derivatives	Allows discharge of total hydrocarbons to water sources and A1 and A2 according to the concentrations and limitations set forth in the tables below; the concentration of hydrocarbons must be measured discharging to the water source. Hydrocarbons shall not be discharged to water sources A3 and A4. For rivers in continuous flow 10 mg/l according to the ratio of the amount of wastewater discharged to the amount of the water source should not be less than 1000:1. For a river in a continuous flow 3 mg/L and in accordance with the ratio of the amount of the wastewater discharged to the amount of water source should not be 300:1 or less.	-
Sulfide (S ²⁻)	Nil	3.0
Ammonia (NH ₃)	Nil	10
Ammonia gas (free NH ₃)	Nil	6.0
Sulfur dioxide SO ₂	Nil	7.0
Calcium Carbide CaC	Nil	Not allowed
Organic solvents	Nil	Not allowed
Benzene	Nil	0.5
Chlorobenzene	Nil	0.1
TNT	Nil	0.5
Bromine (Br ₂)	Nil	1-3