Executive Summary

I. Background Information

The existing road network in Lebanon has a predominantly adequate extent and coverage, but a substantial percentage still remains in a somewhat poor condition. This results in the obstruction of local and economic developments, mostly in rural as well as lagging regions where the road network conditions are below national average levels. In addition, and further to the influx of Syrian refugees, impacts on traffic demand and utilization of the road network have increased. This can be attributed to several factors including inefficient funding and investments, weak capacity in road agencies and the absence of road asset management tools.

As such, the World Bank will be funding the Roads and Employment project which will be part of phase I of the US$510 million government's roads rehabilitation and upgrade program in Lebanon. This project aims to improve the efficiency of road sector expenditures through the prioritization of road works and the improvement of road asset management techniques.

II. Objectives of the ESMF

Since neither municipalities nor exact roads are determined at the onset of the project and will be decided during project implementation based on demand and consultations with the Lebanese Government represented in the CDR as well as other relevant stakeholders, the World Bank instrument OP 4.01 is triggered and the Environmental and Social Management Framework (ESMF) is the safeguard instrument which will be used at this project stage.

The purpose of this ESMF is therefore to ensure that the management of environmental and social dimensions are integrated into the entire project development cycle of the investments that will be financed under this project. The ESMF will therefore be integrated upstream of the planning and design process. As such, this ESMF serves as a practical tool to guide the identification and mitigation processes of potential environmental and social impacts of proposed investments within the context of this project. It also serves as a platform for consultations with all concerned stakeholders as well as project beneficiaries.

This ESMF has been prepared in compliance with the World Bank's Safeguard Policy OP 4.01 on Environmental Assessment, as well as the relevant Lebanese policies, standards and regulations on environmental assessment and protection.

III. Roads and Employment Project Objectives and Components

The Roads and Employment Project objectives are to: (i) improve transport connectivity along select paved road sections; and (ii) create short-term jobs for Lebanese and Syrians.

The project beneficiaries consist of the following:

- Lebanese and Syrian low-skilled labour force participants;
- Lebanese and Syrian households, particularly the poor and lower middle class;
- Local industries and economics
- Medium and small contractors
- Lebanese government agencies active in the road sector

The Roads and Employment project is comprised of 3 main components with the overall aim to improve existing road conditions and build capacities in the road sector as follows:

Component 1: Roads Rehabilitation and Maintenance (US$184.6 million)

This component will primarily finance works for the rehabilitation and maintenance of about 500km of primary, secondary and tertiary roads, including road safety and spot improvements, as well as supporting consultancy services.

The investments under this component will improve transport connectivity and create direct and indirect jobs for Lebanese and Syrians.

The works under Component 1 of the project include:

- Asphalt overlays;
- Drainage works;
- Base and sub-base reconstruction on selected sections;
- Slope stabilization works;
- Retaining walls; and
- Roadside improvements on sections crossing towns (sidewalks, planting trees).

It is worth noting that most road works will take place within the existing right of way. The financing under Component 1 of the project is detailed in Table 1:

Table 1. Project works under Component 1 of Roads and Rehabilitation Project

Items	Description of works	Proposed Financing costs	Additional clarifications
1	Road rehabilitation activities	US$ 150 million	This will be financed under about 15 different local contracts, ranging in value between US$5 million to US$15 million each for medium and small sized contractors in various regions throughout Lebanon
2	Consultancy services for design and supervision of rehabilitation works	US$ 8 million	
3	Safeguards instruments such as Environmental and Social Management Plan (ESMP); Environmental and Social Impact Assessment (ESIA); and Resettlement Action Plan (RAP)	~US$ 1 million	
4	Piloting of multi-year routine maintenance contractors (2 or 3-year contracts)	~US$ 15 million	To be undertaken by small local contractors on a select number of newly rehabilitated road sections
5	Price contingencies	$US 10.6 million	

Component 2: Improving Road Emergency Response Capacity (US$7.5 million)

As one of the consequences of climate change, Lebanon has been witnessing more extreme weather conditions with shorter yet more severe winters and snow periods. Considering that Lebanon is primarily a mountainous country, these effects are felt more deeply where remote villages and town are being cut off from basic services for several days in the winter season thus affecting their livelihoods. This is mainly attributed to the fact that the Ministry of Public Works and Transport (MoPWT) does not have a sufficient number of vehicles for snow removal for example, while most of the existing equipment is outdated with an average age of 20 years. In addition, MoPWT is experiencing difficulty in deploying these vehicles in a timely manner to towns and villages during extreme weather and snow events. The major highway that links Beirut to Bekaa is also often cut off by snow, resulting in large economic losses.

This component therefore aims to improve the capacity of the MoPWT in dealing with road emergency works especially during snow and extreme climatic events and aims to revise the existing emergency procedures of MoPWT and its capacity to plan for extreme weather event, including the timely and proper mobilization and dispatching of its equipment. This component will finance the purchase of the following items:

- 15 wheel loaders;
- 10 snow blowers;
- 5 salt spreaders; and
- 10 four wheel drive vehicles

Component 3: Capacity Building and Implementation Support (US$7.5 million)

The aim of this component is:

- to build the capacity of the Lebanese agencies in the planning and management of the road sector; and
- to contribute to the training and capacity building of contractors and workers on new and improved road construction and maintenance techniques

This component will therefore finance the following 5 sub-components as listed in Table 2:

Table 2. Financing under Component 3 of Roads and Employment Project

Sub-Component Description	Proposed Financing Cost (US$)	Additional Remarks
1. Strengthen national road asset management	US $2 million	This includes a database for trunk network in Lebanon; road visual surveys; road safety assessment; traffic counts on select road sections; revision of design and maintenance standards; preparation of bidding documents and training on performance-based contracts for road maintenance.
2. Support planning and implementation of road safety measures	US $2 million	Elaboration of a national strategy and action plan on road safety; implementation of select priority road safety measures.
3. Support planning and design studies	US $2 million	This will finance studies undertaken by CDR to prepare planning and design studies identified as priority transport projects by the Lebanese Government.
4. Support training activities	US $0.5 million	This will help to build technical skills of MoPWT and CDR staff as well as workers and small contractors especially on proper routine maintenance requirements and techniques, environmental, social, and health and safety aspects
5. Support for project implementation	US $ 1 million	This will finance the hiring of required experts by the implementing agency for proper implementation and monitoring of the project

IV. Environmental Legal and Institutional Framework in Lebanon

The implementation of the proposed activities under the project must be in compliance with both the operational policies of the World Bank (WB) and the existing legal framework of the Government of Lebanon (GoL).

World Bank's Safeguards Policies

In preparing this ESMF, all the categories of investments were screened against the 10 WB safeguard policies and it was determined that the following 2 safeguards policies are triggered: OP 4.01 on Environmental Assessment, and OP 4.12 on Involuntary Resettlement.

Environmental Assessment (OP 4.01)

For all projects financed by the Bank, environmental screening is conducted according to the environmental impacts associated with the project, and all projects are assigned an environmental category, A, B, C, or FI, with a decreasing order of environmental impact severity. The instruments for this policy vary between a Strategic Environmental Assessment (SEA), Environmental and Social Management Framework (ESMF), or an Environmental and Social Impact Assessment (ESIA), depending on the project particular conditions. At this stage, since investment details are not sufficiently known, an Environmental and Social Management Framework (ESMF) is prepared.

Based on the principles of the OP/BP 4.01, the projects that will be implemented under the proposed investment can be classified as "Category B" projects given that they have the potential to cause adverse environmental impacts but impacts are expected to be site-specific; few if any of them are expected to be irreversible; and in most cases mitigation measures can be implemented to reduce impact significance to acceptable levels. "Category B" projects are similar to projects listed under Annex II of the Lebanese EIA Decree which require an IEE study with no Public Consultation. Under OP/BP 4.01, "Category B" projects require an environmental assessment that is narrower in scope compared to category A projects (that require an ESIA).

Involuntary Resettlement (OP 4.12)

Activities financed under the component on roads rehabilitation and maintenance could require minor land acquisition and resettlement. Impacts are expected to be small scale in nature, as investments will be carried out primarily on existing rights of way or on government-owned land. However, project implementation may result in impacts on squatters or encroachers on the rights of way, or temporary impacts to land users in adjacent properties. In limited cases, minimal involuntary taking of land could also be required. Since the location of investments cannot be determined prior to project appraisal, a Resettlement Policy Framework (RPF) has also been prepared based on the requirements of World Bank Policy on Involuntary Resettlement OP 4.12 and relevant Lebanese laws and regulations as a guideline for resettlement preparation and implementation, if there is any. An RPF sets the guidelines for the Resettlement and Compensation Plans since the program investment triggers this policy. A Resettlement Action Plan (RAP) or Abbreviated Resettlement Action Plan (ARAP – in case the number of PAPs is below 200) would also have to be prepared and approved by the Bank when resettlement needs and areas are identified.

Relevant National Legislative Framework

The national regulatory framework includes important legislation related to environmental and social safeguards:

- The EIA decree 8633/2012;
- Expropriation Law No. 58 dated 29/05/1991 (updated on 8/12/2006); and
- Other environmental legislations dealing with the management of road works, solid waste and construction waste, air quality, noise pollution, water run-off pollution, and pollution control.

According to the EIA decree 8633/2012 Annex 1, the construction of new roads requires an EIA study. However, the *rehabilitation* of existing roads is not listed in either annex 1 or 2 of the Decree. Due to the nature of works associated with all 3 components of the Roads and Rehabilitation Project and since it is listed as a category B project as per WB policies, this project is expected to be closer to Annex II projects than to Annex I projects as per Lebanese legislation since the expected environmental and social impacts are minor and temporary in nature. In order to close the gap between national and World Bank policies and legislation, a screening exercise will be carried out with the Ministry of Environment once the sub-projects are identified and that detailed designs have been prepared in order to confirm whether each sub-project requires a site-specific ESMP with or without Public Consultation, an IEE, or an ESMP checklist.

Institutional Framework

Institutions relevant to the project include the following:

- World Bank (WB);
- Council for Development and Reconstruction (CDR);
- Ministry of Environment (MoE);
- Ministry of Public Works and Transportation (MoPWT);
- Ministry of Interior and Municipalities (MoIM); and
- Municipalities and Unions of Municipalities (local level).

In addition, NGOs and CSOs in each of the governorates targeted can be considered as stakeholders to be involved in the public consultations of the REP Project at various stages of the project.

Mandates of the public institutions listed with regard to the project are subsequently described.

World Bank (WB)

The WB is funding the three components of the Roads and Employment project through the CDR.

The WB's responsibility is to:

- Review and clear the ESMF described in this document and the RPF prepared for the project;
- Supervise the implementation of the Bank's environment and social safeguards through the implementation of the project ESMF and RPF;

- Provide technical support to the CDR and other relevant stakeholders as required to ensure a reasonable implementation of the Banks' safeguards.

Council for Development and Reconstruction (CDR)

- The CDR will lead the execution of the project's components and designate competent parties to implement them. The CDR will also supervise the implementation of the Environmental and Social Management and Monitoring Plan (ESMMP) and will make sure that the recommendations of the Environmental and Social Management Plan (ESMP) for all road rehabilitation works (and other ESMPs subsequently prepared) are included in the Terms of Reference (TOR) of the contractors executing the construction activities.
- The CDR will be also responsible for the expropriation procedures if resettlement is needed during the execution of component 1 activities.

Ministry of Environment (MoE)

MoE is responsible for the review and approval of the IEE/ ESMP prepared and submitted prior to implementation of the Roads and Employment project. MoE is also responsible for the supervision and implementation of the Environmental and Social Management plan (ESMP) for component 1 associated activities - road networks rehabilitation works.

Ministry of Public Works and Transport (MoPWT)

MoPWT is responsible for the management of all public roads, for developing a sustainable strategy for the transportation sector, road and street plans within cities and villages. It also provides approval for the issuance of construction permits by the concerned municipality(ies). Therefore, the MoPWT plays a key role in the management of all 3 components of the Roads and Employment Project. It will also be in charge of monitoring the implementation of mitigation and monitoring measures along main rehabilitated roads during the operation phase.

Ministry of Interior and Municipalities (MOIM)

The Ministry of Interior and Municipalities manages the affairs of Municipalities and Unions of Municipalities. Road rehabilitation works falls under MOIM's supervision, and therefore when implementing component 1 of this project, it is necessary to coordinate with the MoIM in all aspects of the studies.

Municipalities and Union of Municipalities

The municipalities and Union of Municipalities will supervise the implementation of the developed Environmental and Social Management and Monitoring Program (ESMMP), particularly for recommendations related to the construction activities of component 1 of the project once project implementation starts, and during the project operation.

V. Baseline Environmental Conditions and Likely Significant Environmental Impacts

Environmental Baseline

Since there are no defined roads or specific intervention areas finally determined yet, some general background information about the different regions in Lebanon are provided except Beirut which is not included in the scope of works for this project. Baseline information specific to the targeted roads will be gathered at the early stage of project implementation once the specific roads are selected. Table 3 is a summary outline of the baseline environmental conditions in Lebanon.

Table 3. General Description of Baseline Environmental Conditions in Lebanon

Environmental Parameter	General Description
Climate	Lebanon has a Mediterranean climate characterized by a long, hot, and dry summer, and cool, rainy winter. In the Lebanon Mountains, the gradual increase in altitude produces colder winters with more precipitation and snow. The summers have a wider daily range of temperatures and less humidity. In the winter, frosts are frequent and snows heavy; in fact, snow covers the highest peaks for much of the year. In the summer, temperatures may rise as high during the daytime as they do along the coast, but they fall far lower at night.
Water Resources	The main rivers that flow entirely inside Lebanon are the Litani river (average annual flow of 0.79 million cubic meter), the Ibrahim River (0.51 Mm^3), the Awali River and the Damour River (both 0.3 Mm^3). Water supply and sanitation in Lebanon is characterized by a number of achievements and challenges. The achievements include the reconstruction of infrastructure after the 1975-90 Civil War and the 2006 war with Israel as well as the reform of the water and sanitation sector through a water law passed in 2000. The law created four Regional Water Establishments to consolidate numerous smaller utilities. The challenges include poor service quality, in particular intermittent water supply that persists despite the availability of relatively abundant water resources; poor information about water resources, sector performance and assets; a very low share of metering and the absence of volumetric water tariffs; a high level of water distribution losses; limited cost recovery for water supply; and no cost recovery for sewerage and wastewater treatment.
Wastewater	Due to the absence of institutional control of public authorities during the war period (1975-1990), domestic wastewater in Lebanon was discharged directly into the sea with no treatment prior to disposal associated with dire consequences on the aquatic ecosystem and environment. In the post-war period, several actions have been undertaken by the Government to find out immediate short-run corrective solutions and long-run planning strategies for the whole country. The need for rehabilitating the already existing wastewater collection and disposal systems, and the construction of new treatment facilities were the Government's major concerns. The disposal of sewage and industrial effluents into the sea and rivers is frequently practiced and followed by abstraction from the rivers at downstream level for irrigation uses. There are approximately 53 outfalls along the coast, 16 of which are located in Greater Beirut between Dbayeh (Northern Beirut) and Ghadir (Southern Beirut). Lebanon generates an estimated 249 Mm^3 of wastewater per year, with a total BOD load of 99,960 tonnes. In addition, industries generated an estimated 61 Mm^3 of wastewater in 1994 and are expected to reach 192 Mm^3 by the year 2020.
Solid Waste Management	The yearly municipal solid waste (MSW) generation in Lebanon is approximately 2 million tons/year. Daily MSW generation is 1.05 kg/capita/day. Composition analysis shows that

Environmental Parameter	General Description
	approximately 51% of this is organic, while the remaining is comprised of recyclables like paper and cardboard, plastic, glass, textiles, metals, demolition/construction waste and others. The majority of this waste is collected and disposed of by landfilling/ dumping. The main service provides are Sukleen for Central Beirut only, while CityBlue is responsible for collection and treatment in the Greater Beirut Area and Mount Lebanon, and RAMCO is responsible for Metn and Kesrouan regions. Currently, there are Costa Brava and Bourj Hammoud coastal Landfill sites where these collected wastes are disposed of. Many of the remaining rural areas collect municipal solid waste and dispose of it by open dumping and burning. The authorities in charge of SWM at the national scale include the Council for Development and Reconstruction (CDR), MOE, OMSAR and the concerned municipalities.
Air Quality	In Lebanon, the transport sector (including land, air and maritime) is the main source of air pollution in the country. It is one of the largest contributors to urban air quality deterioration, accounting for 59% of the national NO_X emissions in 2005. Power plants and power generators are another important source of air pollution. The Syrian crisis causing displacement of refugees to Lebanon was estimated to precipitate in an increase of up to 20 % the emissions of air pollutants in Lebanon leading to a degradation of air quality (MoE/UNDP/EU, 2014). The spatial distribution showed that main cities (other than GBA) such as Zahle, Baalbek, Tripoli and Saida witness a significant degradation in air quality (MoE/UNDP/EU, 2014).
Noise	The main sources of environmental noise are traffic, industry, construction, public works and the neighborhood. The open-air electricity generators in Lebanon as well as the frequent use of car horns by drivers present a significant source of environmental noise pollution across the country. The main sources of noise generation will be identified once the exact location of roads rehabilitation works have been identified.
Land and Geography	The area of Lebanon is approximately 10,452 square kilometers. The country is roughly rectangular in shape, becoming narrower toward the south and the farthest north. Its widest point is 88 kilometers, and its narrowest is 32 kilometers; the average width is about 56 kilometers. A major feature of Lebanese topography is the alternation of lowland and highland that runs generally parallel with a north-to-south orientation. There are four such longitudinal strips between the Mediterranean Sea and Syria: the coastal strip (or the maritime plain), western Lebanon, the central plateau, and eastern Lebanon.
Social Baseline	The Syrian conflict caused has caused a significant influx of displaced Syrians into Lebanon, which affected the demographic and labor market figures in different Lebanese regions. The number of registered displaced Syrians is estimated to be around 1,058,420 (excluding 10,691 displaced Syrian whose location is unaccounted for). The ILO's Assessment of the Impact of Displaced Syrians in Lebanon and their Employment Profile published in 2013 showed that the employment rate of Syrian refugees in Lebanon is estimated to be 70%. Whereas the latest employment rate figures, reported in 2009 by the European Training Federation (ETF), estimate that only 43.6% of Lebanese have jobs. Prior to the onset of the Syrian conflict and the inflow of large numbers of Syrians, poverty in Lebanon was significant and regional disparities in living conditions were acute. The Syrian conflict is estimated to have increased poverty in Lebanon, pushing an additional 170,000 people into poverty in 2014 and making those already poor even poorer. The lack of legal frameworks for Syrians in Lebanon's labor market makes them particularly vulnerable to exploitation through irregular working arrangements, driving down wages and contributing to social tensions with host communities. Syrian influx has also contributed to a situation of rapid, unsustainable urbanization in an already vulnerable and fragile context, in turn contributing to increased social tensions/decreased social cohesion in Lebanon.

Likely Significant Environmental Impacts and Mitigation Measures

The work activities associated with the components of this project that include interventions for road rehabilitation and upgrade are expected to improve road condition and accessibility and road safety, reduce dust emissions and increase fuel efficiency, reduce traffic accidents, create employment and business opportunity for local residents and displaced Syrians. The roads and rehabilitation project is therefore primarily and in the long-run associated with positive impacts.

Due to its rehabilitation nature, the negative environmental impacts anticipated for the project activities during construction are expected to be minor during rehabilitation phase and of temporary nature including dust, noise, waste generation, disruption to traffic and movement and possible damages to existing utilities and networks. These impacts can be mitigated by implementing the environmental and social management plans (ESMPs). Environmental Health and Safety procedures (EH&S) during construction and operational phases will be also prepared as necessary.

Mitigation at construction stage will take place as part of the contracts for Civil Works which will therefore bear clauses binding respective contractors to undertake impact mitigation as per the Environmental and Social Management Plans (ESMP) as part of the bidding documents. CDR will monitor activities of construction contractors to ensure delivery as per contracts.

While implementation of mitigation measures of the ESMP during construction fall under the CDR's responsibility, the implementation of mitigation measures during the operation phase of the project is the responsibility of the MoPWT and concerned municipalities, depending on the road category. The ESMF includes generic tabular ESMPs for expected activities which include the environmental impacts, their mitigation measures, and responsibilities.

Negative social impacts may include dissatisfaction with the selection of roads, leading some social groups to believe that their geographic area has been excluded; dissatisfaction with the allocation of project-generated jobs between groups, poor labor conditions for workers, under-participation of women, increased rates of gender-based violence, and institutional capacity risks. In addition, minor land acquisition or livelihoods impacts could result in negative impacts during the construction phase of the project.

The project will mitigate against negative social impacts by putting in place clear and transparent mechanisms for allocating project resources, including road selection. Negative impacts related to land and livelihoods will be mitigated through the implementation of the project's Resettlement Policy Framework (RPF).

As for the operation phase, the main expected impacts are increased noise levels due to bigger volumes of traffic and higher speeds. Air pollution levels may also increase due to increase in the traffic volumes on the rehabilitated roads.

The magnitude, significance, and acceptability of predicted impacts are evaluated with a view to determining whether observed adverse impacts are significant enough to warrant mitigation. To achieve this, predicted impacts are analyzed against parameters such as geographic spread, persistence, potential for reversibility, cumulative tendency, and potential to trigger secondary impacts, among others. Impacts were weighted on the scale of P, 2P, O, N, 2N to signify Positive, strongly Positive, Neutral, Negative, and Strongly Negative impacts respectively

Table 4 provides an overall summary of the potential adverse environmental and social impacts as a result of the project construction with the respective weighting of the magnitude or severity of the impacts as well as the proposed mitigation measures as such. It is worth noting, however, that these are general mitigation measures which will be elaborated upon at the later more detailed stage of the project, once subprojects have been identified. As for the operation phase, all requirements of the national environmental, labour and social legislation will be adhered to and records will be maintained to ensure continuous environmental and social compliance.

Table 4. Potential adverse environmental and social impacts and their severity and proposed mitigation measures

Activity	Primary Impact	Secondary Impact	Duration	Feasibility of mitigation	Severity	Weighting	Proposed Mitigation Measures
Roads Rehabilitation activities	Generation of nuisances:- noise, air emissions, dust and vibrations at construction sites	Hazards to human health are a nuisance to the neighborhoods	Short-term	Reversible	Medium	0	Employ construction machines with low emissions; arrange sources of emission far from surrounding residences; Proper planning and operation of traffic diversions; Regular watering of roads for dust control, especially in areas with sensitive receptors; Cover up any vehicle transporting materials and spoil to and from construction sites Ensuring speed controls for construction vehicles; Restrict construction between 7:00 a.m. and 5:00 p.m.; Restrict the use of noisy machines near sensitive receptors.
	Generation of solid and hazardous wastes such as rubble, debris, empty fuel drums or chemical containers, etc.	Negative impacts on human health and ecological systems	Short-term	Reversible	Medium	N	Temporary storage of wastes on sites should be properly contained to avoid unpleasant odors, pollution and visual obstruction; Sites for disposal of solid wastes should be determined prior to construction; Domestic solid waste shall be collected and disposed of daily at the local authorities' designated site or given for collection by the local authorities; Construction wastes have to be removed to the extent possible within 24 hours from the site; No solid waste should be burned on site; Excavated soil should be used for leveling and backfilling to the extent possible; Any identified hazardous wastes will need special handling, storage and transportation; they should be safely stored in a designated site until

Activity	Primary Impact	Secondary Impact	Duration	Feasibility of mitigation	Severity	Weighting	Proposed Mitigation Measures
							removal to a landfill designated by a local authority or the Ministry of Environment becomes possible; The contractor should be trained and made aware of the hazardous/ contaminated soil and waste management requirements prior to commencement of the sub-project.
	Occupational Health and Safety Concerns for construction crew and others	Injuries to workers, either due to long term exposure or accidents, which reduces their productivity and increases costs to the state and society	Can be long-term or shorter, or both	Can be reversible or irreversible	Low to High	2N	Ensure the Contractors comply with the Contractor's Environmental Health and Safety Guidelines approved by the Consultant and the Ministry of Environment
	Sanitation concerns for construction crew	Concentration of workers can generate both solid and sanitation waste, which poses hazards to human health	Short-term	Reversible	Low	N	Contractors must ensure implementation of a proper waste management system and good housekeeping practices at the construction sites.
	Generation of waste oil, filters and spare parts maintenance of machines / equipment	Contamination of ground, water resources, etc.	Short-term	Reversible	Medium	N	Oil and lubricant waste must not be buried or burnt at the project site, but should be collected and stored in proper oil-cans for reuse, or disposed of at designated sites approved by the Ministry of Environment and local authority.

Activity	Primary Impact	Secondary Impact	Duration	Feasibility of mitigation	Severity	Weighting	Proposed Mitigation Measures
	Impacts in material borrow and transport areas	Quarrying for hard stone, soil and sand has potential to degrade the land, destroy biodiversity and habitats.	Long-term	Reversible	Low to Medium	N	Ensure sourcing of construction materials from quarries that have a permit from the Ministry of Environment;
	Damage to existing infrastructure (water, electricity)	Interruption of supply	Short-term	Reversible	Medium	N	This will be avoided to the extent possible whereby the Contractors will coordinate with all relevant authorities and ensure all as-built drawings are thoroughly reviewed; in the event that drawings are not available, test-pits will be dug to identify any existing infrastructure prior to construction to avoid any damage to them..
	Stripping the land of vegetation and top soil.	Loss of standing biodiversity and soil-borne genetic reserve in the form of seeds	Long-term	Irreversible	Low	N	Any lands identified as national conserved areas will be not be impacted by this project; A compensatory tree planting program should be developed to replant native species if removed in a space available beside the proposed project; Workers should be instructed to protect flora and fauna and habitats to the extent possible
	Proliferation of social concerns such as commercial sex, alcoholism, drug abuse, multiple homes	Social decadence, increased hazard of transmission of STDs, HIV/AIDS, crime, etc.	Short-term but impacts can be long term	Reversible	High	N	Workers should have a Code of Conduct Contract with the Contractor and full compliance with this Contract should be ensured at all times with continuous monitoring.

Activity	Primary Impact	Secondary Impact	Duration	Feasibility of mitigation	Severity	Weighting	Proposed Mitigation Measures
	Displacement of human settlements	Destabilisation of livelihoods	Long-term	Has irreversible aspects	High	2N	The Roads and Employment Project will avoid to the extent possible the need for land acquisition and resettlement. In the unlikely and exceptional event that any of the activities financed under the project requires additional land, houses and other assets, or where activities have temporary or permanent impacts on livelihoods, the Resettlement Policy Framework will be implemented to aid in the resettlements, compensations as necessary. Consultations with Project Affected Persons will be carried out throughout.
	Obstruction to access routes, visual intrusion	Loss of business, inconveniences to access premises	Short-term	Reversible	Medium	N	A road traffic plan will be prepared prior to construction works to identify all possible road diversions to minimize traffic and congestion; Visual obstructions will be temporary in nature and for the duration of the project but will be avoided to the extent possible by removal of all equipment and generated wastes if any at the end of each working day.

2P=High positive impact, P= moderate positive impact, 0=low impact, N=moderate adverse impact, 2N severe adverse impact

VI. The EMP and Environmental Reporting Phase

Further to the selection of sub-projects, preparation of the detailed designs for the roads rehabilitation project, the screening exercise, and the determination of the category of the project as per the EIA Decree, the type of environmental reporting document (whether IEE or ESMP, with or without public consultations, or ESMP checklist) will be identified and agreed upon with MoE in order to meet both national and World Bank (OP/ BP 4.01) requirements. Public consultations with the concerned communities and stakeholders will be conducted where relevant in accordance with the aforementioned requirements and will be documented, taking gender into account. The ESMP that will be developed will set out the mitigation and monitoring measures for all negative impacts associated with the project. The purpose of the ESMP process for component 1 is to:

- Identify and analyze potential environmental and social impacts and issues, both adverse and beneficial, associated with the proposed project;
- Identify measures to avoid, minimize, mitigate, or offset/compensate for adverse impacts on workers, affected communities, and the environment
- Design an Environmental and Social Management Plan (ESMP) to address the mitigation and monitoring of these adverse measures, as well as propose institutional measures to manage and monitor the adverse impacts and their remedial measures as needed;
- Identify specific self-monitoring reporting that the CDR would submit to the WB and MoE for the construction phase of the investment project; and
- Ensure that the investment contracts include appropriate clauses to obligate the contractors to comply with the associated elements of the ESMP and submit progress reports as part of their contractual obligations.

The documents prepared at the current stage (ESMF and RPF) and later upon identification of the sub-projects (ESMP and RAP/ARAP) will be disclosed in Arabic and English languages as per WB policies in order to satisfy OP/ BP 4.01 and OP/ BP 4.12 requirements.