

REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

**Lake Qaraoun Pollution Prevention Project**  
Loan Agreement No. LB-8637 – Project ID IBRD P147854

**Semestrial Report**

Period Covered: July 2021 – December 2021

**ABBREVIATIONS AND ACRONYMS**

BWE	Beqaa Water Establishment
CDR	Council for Development and Reconstruction
CESMP	Construction Environmental and Social Management Plan
COM	Council of Ministers
CS	Consultancy Services
CW	Civil Works
DRD	Design Requirements Document
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FAO	Food and Agriculture Organization of the United Nations
GAP	Good Agricultural Practices
GoL	Government of Lebanon
IBRD	International Bank for Reconstruction and Development
IPM	Integrated Pest Management
LRA	Litani River Authority
MoA	Ministry of Agriculture
MoE	Ministry of Environment
MoEW	Ministry of Energy and Water
MoF	Ministry of Finance
PAD	Project Appraisal Document
PDO	Project Development Objective
PMU	Project Management Unit
QCBS	Quality and Cost Based Selection
RFB	Request for Bid
SESA	Strategic Environmental and Social Assessment
SSS	Single Source Selection
TOR	Terms of Reference
WWTP	Wastewater Treatment Plant

## PROJECT DATA SHEET

<b>Project Name</b>	Lake Qaraoun Pollution Prevention Project		
<b>Project ID</b>	P147854		
<b>Implementing Agency</b>	Council for Development and Reconstruction (CDR)		
<b>Line Institutions</b>	Ministry of Environment Ministry of Energy and Water Ministry of Agriculture Litani River Authority Beqaa Water Establishment		
<b>Financing Instrument</b>	Loan (IBRD loan number LB-8637)		
<b>Budget (Loan):</b>	US\$ 55 million		
<b>Loan Agreement Date</b>	September 2, 2016		
<b>Effectiveness Date:</b>	December 13, 2016	<b>Closing Date</b>	June 30, 2023
<b>Key sectors</b>	Environment, Wastewater, Agriculture, Solid Waste, Water		
<b>Project Development Objectives</b>	To reduce the quantity of untreated municipal sewage discharged into the Litani River and to improve pollution management around Lake Qaraoun.		
<b>Project components and subcomponents</b>	<p><b>1. Improvement of Municipal Sewage Collection</b></p> <p>1.1. Expansion of the sewerage network to connect to Zahle WWTP</p> <p>1.2. Expansion of the sewerage network to connect to Anjar WWTP</p> <p>1.3. Expansion of the sewerage network to connect to Aitanit WWTP</p> <p>1.4. Design, Supervision, environment and social consultancy services</p> <p><b>2. Promotion of Good Agricultural Practice, including Integrated Pest Management</b></p> <p>Output 1: Assess current agricultural practices and develop GAP-IPM program</p> <p>Output 2: Train professionals and facilitators in GAP-IPM practices</p> <p>Output 3: Implement the GAP-IPM program at pilot plots</p> <p>Output 4: Provide strategy for sustainability of project outcomes</p> <p><b>3. Solid Waste, Water Quality Monitoring, Capacity Building and Project Management</b></p> <p>3.1. Technical studies in solid waste management (MoE)</p> <p>3.2. Improvement in water quality monitoring and resources modelling (LRA)</p> <p>3.3. Capacity building at the BWE</p> <p>3.4. Capacity building at MoEW</p> <p>3.5. Project management</p>		
<b>Intervention Area</b>	Upper Litani River Basin, Beqaa, Lebanon		
<b>Project Modifications</b>	As previously reported, there have been changes in the scope of work under the project's subcomponent. Project modifications are attached to Annex 1 for reference.		

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## I. INTRODUCTION

As part of the World Bank's standard practices, the Project Management Unit should prepare a progress report every six months. This report covers the period from July 2021 to December 2021 and presents the following:

- A summary of the progress of work for each project component and sub-component
- Main challenges during the reporting period
- Project implementation status per component including key performance indicators and action plan
- Updates on financial disbursements and procurement plan
- Environmental and social safeguards report

## II. SUMMARY OF PROJECT PROGRESS IN REPORTING PERIOD

### Component 1: Improvement of Municipal Sewerage Collection

#### Subcomponent 1.1: Expansion of The Sewerage Network to Connect to Zahle WWTP

- Interim Extension of time (EOT) for the Contractor, ASDI, until 31/01/2022, given that the Contractor will mobilize quickly, submit an updated work schedule, and show good progress.
- Contractor was notified on EOT decision (CDR board decision 404/2021/A on 28/07/2021; WB No Objection on 20/11/2021) and on 21/12/2021 he signed the notification with reservations since the decision did not mention any financial claims, even though the decision text was clear that claims submitted by the Contractor are under consideration.
- The Supervision Engineer, Novec – Dar Taleb, is determining the financial claims and requested further proof from the Contractor.
- To date, the Contractor did not remobilize. Based on a meeting with CDR and the Supervision Engineer on 25/11/2021, the Contractor verbally stated that he will not be able to remobilize due to changes in market conditions, especially the uncontrollable market prices of PVC pipes.
- As requested by the Convent representative to reroute the sewer line (HZ-L) in Hazerta passing through Convent property, the design of rerouting was finalized on 17/11/2021.
- Resolve access issues in Zahle at several sewer lines to clear a total of 1,063 m and an additional 2,700 m pending official municipal council decision from Zahle municipality. Also the waiver signature of plots number 477 and 489 in Zahle on 17/12/2021 has resolved the implementation of ZH-A sewer line (19,258 meters).
- Decree 8568 dated 21/12/2021 was issued appointing a head for expropriation committee in the Bekaa. As a result, Zahle municipal expropriation Decree 1020/2007 can be implemented.

## **Component 1: Improvement of Municipal Sewerage Collection**

### *Subcomponent 1.2: Expansion of The Sewerage Network to Connect to Anjar WWTP*

- Rebidding of Lot 1 works was launched on 01/11/2021. Four offers were received on 10/12/2021. Ongoing bid evaluation of the four qualified bids ranging from \$ 8.7 M - \$ 9.9 M for works estimated at \$ 13M.
- Following the new text for performance bonds guarantee issued by the Lebanese banks in September, and after discussions and rejection of the WB to any text alteration of the forms in bidding documents, the awarded Contractor, Danash Contracting & Trading Co., was notified on 13/12/2021 to sign the Contract Agreement and submit the Performance Guarantees within 28 days i.e. by 10/01/2022.
- Exceptional approval by the President of Lebanon and the Prime Minister on the international arbitration clause in contracts under LQPPP received on 06/09/2021. The exceptional approval was required since the Council of Ministers resigned, thus no decree could be issued as stipulated by clause 762 of Law No. 440 dated 29/07/2002 “*Amending some provisions of the Civil Procedure Code related to arbitration*”.
- After approval of arbitration clause format, the Supervision Engineer, SU YAPI, signed the draft contract on 29/09/2021 and was notified officially with the contract on 16/11/2021 following CDR internal signature procedures.

## **Component 1: Improvement of Municipal Sewerage Collection**

### *Subcomponent 1.3: Expansion of The Sewerage Network to Connect to Aitanit WWTP*

- Execution of 99% of sewer lines in Qaraoun and 98% of sewer lines in Baaloul. The remaining works are inlet and outlet connections to the pumping stations (PS) and road reinstatement.
- Relocation of PS1, PS3, and PS6 due to changes in site conditions. WB approval on relocation report evaluating environmental, social and contractual implications on 15/12/2021.
- 7.3 % of the PS works were completed in Baaloul and Qaraoun.
- A variation order (VO1), approved by CDR Decision No. 263/2021/A on 20/05/2021, was approved by the WB on 26/08/2021. It includes use of HDPE pipes in place of Ductile Iron (DI) pipes for pump stations pressure mains, additional storage capacity of the wet pit at the pumping stations, and a 6-month time extension until 26/11/2021.
- Request for extension of time for Contractor until May 2022 submitted to the WB for approval on 30/11/2021.
- US sanctions were imposed on Mr. Dany Khoury who owns less than 50% of shares in Khoury Contracting Company, the Contractor. No clear decision from Government of Lebanon or CDR on the impact of the sanctions on the ongoing contract. CDR consulted the Legislative and Consultative Committee at the Ministry of Justice. The WB's decision on the extension of time request is also pending input from the Lebanese Government.

**Component 2: Promotion of Good Agricultural Practice, including Integrated Pest Management**

- Five comparative pilot plots on potato were established and harvested.
- A total of 596 technical support visits to 53 potato farmers were conducted during the last potato season in 2021 to inform farmers on integrated crop management practices, with an average of 11 visits per farmer.
- 53.8% reduction in the quantities of fertilizers compared to the compared to the baseline average.
- 56.4% reduction in pesticides on average (early and late seasons 2021).
- Selection of 5 potato farmers and establishing 5 comparative plots for the new potato season (early 2022).

**Component 3: Solid Waste, Water Quality Monitoring, Capacity Building and Project Management****Subcomponent 3.1: Technical studies in solid waste management**

- ❖ Studies for Closure and Rehabilitation of Bar Elias Dumpsite
  - Present the dumpsite rehabilitation method to Bar Elias municipality. Municipal Council Decision 178 dated 30/11/2021 and received by CDR PMU on 09/12/2021 approves the method of dumpsite rehabilitation proposed by the Consultant.
  - Revision of draft scoping report by CDR PMU – E&S Consultant.
- ❖ Studies for the Assessment of Odor Impact from SWM Facilities and Landfills
  - MoE approved the Consultant's methodology on 08/12/2021.
  - Consultant requested a no-cost extension of time for 7 months. Approval is pending CDR board decision.



**Component 3: Solid Waste, Water Quality Monitoring, Capacity Building and Project Management*****Subcomponent 3.1: Technical studies in solid waste management***

- ❖ SESA Study for the National Integrated Solid Waste Strategy
  - The contract was signed on 19/11/2021 following the approval of the international arbitration clause in contracts under LQPPP received on 06/09/2021.
  - Consultant, JV: LDK – ELARD, signed a draft contract on 14/10/2021.
  - Kick-off meeting with CDR, WB, MoE and the Consultant on 14/10/2021.
  - Consultant was officially notified by the contract on 19/11/2021 following CDR's internal signature procedures.
- ❖ Solid Waste Expert at MoE
  - Solid waste expert, hired on 17/05/2021, submitted his resignation letter (No. 6428) to CDR on 22/09/2021. His resignation was effective as of 22/10/2021.
  - Request to launch an REOI for the replacement of the solid waste expert was prepared by CDR PMU, but it awaits CDR board decision.
- ❖ Feasibility Study for Sustainable Sludge Management in the Bekaa Region
  - The Consultant, Cabin Merlin, submitted the final report including a fifth scenario for sludge management (disposal of dried sludge in a landfill within a 5 km radius from the treatment plants) on 29/12/2021 as requested by CDR PMU.

### **Component 3: Solid Waste, Water Quality Monitoring, Capacity Building and Project Management**

#### **Subcomponent 3.2: Improvement in Water Quality Monitoring – LRA**

##### ❖ Website for LRA

- Following several meetings with LRA, CDR, and the Consultant, ArabiaGIS, the final website design (visual concept design) was completed on 04/11/2021.
- The Consultant, ArabiaGIS, submitted a variation order of \$12,500 on 25/11/2021. The Consultant requested a VO to cover additional man-months for the implementation of new requirements that he claims were not part of the contract's scope.
- CDR PMU shared the VO and relevant documents with the WB for feedback on 03/12/2021.

CDR PMU held a meeting with LRA on 02/11/2021 to obtain the reports on the studies completed on water quality modelling by LRA. LRA requested CDR to cancel other activities under subcomponent 3.2 in a letter submitted on 05/11/2021. CDR will address these modifications in the next loan restructuring.

#### **Subcomponent 3.3: Capacity Building at BWE**

##### ❖ IT support for BWE

- REOI for IT support was launched (second round) on 01/11/2021. On 01/12/2021, one EOI was received by email on time; however, it was blocked by CDR server due to the size of the email. The email was released after the deadline. Decision to relaunch the REOI or to open the single EOI for evaluation is pending CDR board decision.

##### ❖ Experts at BWE

- As requested by the WB during the bi-weekly meeting on 07/10/2021, a report by the experts hired at BWE under LQPPP is required to document achievements and capacity building progress. No report was submitted by BWE to date. CDR is continuously following up with experts on the matter.

#### **Subcomponent 3.4: Capacity Building at MoEW**

##### ❖ Updating the SESA of the updated National Water Sector Strategy (NWSS)

- The Consultant, ECODIT, awarded the contract by CDR Decision No. 221/2021/A on 06/05/2021, signed the contract on 23/09/2021.
- Kick-off meeting was held on 30/09/2021 with MoEW, CDR and ECODIT.
- Work plan submitted on 11/10/2021 and the first deliverable, SESA scoping report was submitted on 10/12/2021.
- CDR PMU and MoEW reviewed the report and shared comments with the Consultant.
- CDR submitted the SESA scoping report to MoE on 27/12/2021 for review as per SEA Decree 8213/2012.

### **Component 3: Solid Waste, Water Quality Monitoring, Capacity Building and Project Management**

#### Subcomponent 3.4: Capacity Building at MoEW (continued)

- ❖ Sustainability of Wastewater Services in Aitanit, Zahle and Anjar
  - The ToR, prepared by MoEW, was approved by the WB on 12/01/2021.

#### Subcomponent 3.5: Project Management

- Environmental social consultant was recruited at CDR PMU on 03/09/2021.

### **Project Challenges**

- ❖ Procurement delays at CDR for activities requiring CDR board decision. The CDR board has not been holding weekly meetings as of September 2021. The table below shows the activities pending CDR board approval, which is beyond the control of the PMU.
- ❖ Due to COVID-19 measures across the country, it was not possible to organize training workshops under component 2 for MoA staff during the reporting period.
- ❖ Farmers are facing challenges finding and purchasing Personal Protective Equipment (PPEs) to use while spraying pesticides, due to the economic crisis in the country. Despite awareness sessions under Component 2, financial considerations often lead to compromising on health and safety measures among farmers.
- ❖ Pesticide use in the Beqaa is a big problem. Banned and expired pesticides are being smuggled into the Beqaa and used by farmers. The activities under Component 2 target a limited number of potato farmers. The lack of law enforcement poses a risk to sustaining good agricultural practices among farmers after the project is completed.

Procurement activities pending CDR board approval:

Contract	Contract Value (USD)	Activities requiring CDR board decision
<b>QC1W3</b> : Expansion of sewage network to connect to the Aitanit WWTP	\$2,522,112	Decision on extension of time of program of works or contract termination
<b>QC1C4b</b> : Supervision of sewage network to connect to the Aitanit WWTP	\$62,832	Approval of extension of time for Supervision Consultant and variation order on the completed level of effort on the previous extension of time (~\$14,000)
<b>QC3C9</b> : Solid Waste Expert at MoE		Approval to launch the Request for Expression of Interest (REOI)
<b>QC3C1b</b> : Study / Assessment of Odor Impact from SWM facilities	\$72,944	Approval on a no cost Extension of Time (EOT)
<b>QC3C1a</b> : Study / Closure & Rehabilitation of Bar Elias Dumpsite	\$67,775	Approval on a no cost Extension of Time (EOT)
<b>QC3C6d</b> : Sustainability Study of Wastewater Services in Aitanit, Zahle and Anjar (MoEW)	Budget \$135,000	Approval to launch the REOI
<b>QC3C7b</b> : IT Development Services for Microsoft Dynamics Navision Software at the Bekaa Water Establishment (BWE)	Budget \$60,000	Decision to open the single EOI received for evaluation Or to relaunch the REOI if the single EOI is rejected

### III. COMPONENTS IMPLEMENTATION STATUS

#### COMPONENT 1: IMPROVEMENT OF MUNICIPAL SEWERAGE COLLECTION (IBRD - US\$ 50.5 MILLION)

Component 1 includes the following:

- 1.1. Expansion of the sewerage network to connect to Zahle WWTP
- 1.2. Expansion of the sewerage network to connect to Anjar WWTP
- 1.3. Expansion of the sewerage network to connect to Aitanit WWTP
- 1.4. Design, Supervision, environment and social consultancy services

Subcomponent 1.4 includes design and supervision consultancies for component 1; as well as the preparation of safeguards documents for subcomponents 1.2 and 1.3 and supervision of safeguard instruments. Its implementation is closely related to the other subcomponents. Therefore, the progress under subcomponent 1.4 will be presented with the other components as applicable.

In what follows, for each subcomponent, the following is presented:

1. Project description which outlines the works to be executed, procurement information, and description of ongoing contracts
2. Works completed to date (December 2021)
3. Financial disbursement during reporting period and to date (December 2021)
4. Key performance indicators achieved to date based on the project's results framework
5. Work progress during the reporting period
6. Action plan

Note that the E&S Safeguards report attached in Annex 2 presents updates on the implementation of the E&S management and monitoring plans for all site works under Component 1 and any emerging issues. It reports on the Contractor's compliance to the measures required by the CESMP and the ESMP and presents updates on LAP implemented by CDR. It also includes detailed updates on unresolved access issues under component 1.1 (Zahle wastewater system).

# 1. SUB-COMPONENT 1.1: EXPANSION OF THE SEWERAGE NETWORK TO CONNECT TO THE ZAHLE WWTP (IBRD-US\$ 10.5 MILLION).

## 1.1. Project Description

Sub-component 1.1: Expansion of the sewage network to connect to the Zahle WWTP		
Description	Covered Areas	Greater Zahle (including Karak & Ksara), Saadnayel, part of Taalabaya, Qaa El Rim, Hazzerta, part of Ferzol
	Sewage network to be constructed (original contracted works)	107 km
	Works completed by other donors	26 km
	Remaining works to be executed	81 km
	Rehabilitation of existing network	2.8 km
	Number of new house chambers	5,100
	Beneficiary population by 2023	158,890
Procurement Details (Contractor)	Procurement Category	Civil Works [CW]
	Procurement Method	Request for Bids [RFB]
	Procurement Process	Single Stage - One Envelope
	Market Approach	Open / International
	Original estimated cost	US\$ 26 million
	Bid launch date	29.03.2017
	Bid due date	02.06.2017
	No. of offers received	12
Contractor (QC1W1)	Price range of offers received	US\$ 9.8 million and US\$ 18.7 million
	Contract Award Date	03.08.2017 (CDR Decision # 600/2017/A)
	Name	ASD International for Transportation and General Contracting (ASDI)
	Date of Notice to Commence	16.04.2018
	Contract Duration	30 months
	Original Contract Completion Date	15.10.2020
	New Contract Completion Date	31.01.2022 (CDR Decision # 404/2021/A)
	Original Contract Amount	US\$ 9,805,734.19
Procurement Details (Supervision Engineer)	New Contract Amount	US\$ 10,539,562.49
	Contract Addendums / Variations	One Variation for US\$ 733,828.3
	Date of Contract Addendum	11.10.2019
	Procurement Category	Consultancy Services [CS]
	Procurement Method	Quality and Cost-Based Selection- QCBS
	Market Approach	Open / International
	REOI launch date	09.12.2016
	REOI due date	12.01.2017
Supervision Engineer (QC1C1)	RFP launch date	31.07.2017
	RFP due date	14.09.2017
	Contract Award Date	18.12.2017 (CDR Decision #1011/2017/A)
	Name	JV: Dar El Handasah Taleb (Leb.) & NOVEC (Morocco)
	Date of Notice to Commence	16.04.2018
	Contract Duration	30 months
	Contract Completion Date	15.10.2020
	New Contract Completion Date	31.01.2022 (CDR Decision # 406/2021/A)
	Contract Amount	US\$ 378,622.27
	Contract Addendums / Variations	None to date

## 1.2. Site works completed to date

Municipality	Type of work	Original works (m)	Works completed by other donors (m)	Available works (m)	Works completed by Contractor (m)	Remaining works (m)
Zahle - El Ferzol	Compulsory Works	42,985	20,742	22,243	10,679	11,564
	Optional Works <sup>1</sup>	23,020	0	23,020	0	23,020
Saadnayel - Taalbaya	Compulsory Works	16,233	1,824	14,409	5,467	8,942
	Optional Works	0	0	0	0	0
Qaa El Rim	Compulsory Works	8,000	1,946	6,054	0	6,054
	Optional Works	0	0	0	0	0
Hezzerta	Compulsory Works	11,771	1,353	10,418	1,933	8,485
	Optional Works	4,900	0	4,900	0	4,900
<b>Total</b>		<b>106,910</b>	<b>25,865</b>	<b>81,045</b>	<b>18,080</b>	<b>62,965</b>
<b>%</b>		<b>100%</b>	<b>24%</b>	<b>76%</b>	<b>17%</b>	<b>59%</b>

## 1.3. Financial disbursements in US\$

Contract	Contractor/Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Expansion of sewage network to connect to the Zahlé WWTP (QC1W1)	ASDI	10,539,562.49	-	2,850,945.10	<b>27%</b>	7,688,617.39
Supervision of sewage network to connect to the Zahlé WWTP (QC1C1)	DAH Taleb /Novec	378,622.27	19,861.00	269,885.48	<b>71%</b>	108,736.79

## 1.4. Key performance indicators

Key performance indicator	Target <sup>2</sup> (2023)	Achieved (Up to Dec 2021)	%
Sewer network constructed (Km)	81 <sup>3</sup>	18	<b>22%</b>
New household sewer chambers (number)	6100	168	<b>3%</b>
Quantity of municipal wastewater collected under the project & treated in Zahle WWTP (m <sup>3</sup> /day)	39,500	10,585	<b>27%</b>
Direct Project Beneficiaries (number)	192,700	51,385	<b>11%</b>

## 1.5. Work progress during the reporting period

- After CDR High Level Management Decision in June 2021 to request the Contractor to restart works, CDR held meetings with the Contractor and the Supervision Engineer to discuss the restart of works and available sites on 24/06/2021 and 29/06/2021. Several revisions of the justification report for extension of time were submitted to the WB by CDR PMU on 06/10/2021 and 11/11/2021. On 20/11/2021, the WB approved the request for extension of time for the Contractor (approved by CDR Board decision 404/2021/A dated 28/07/2021) until

<sup>1</sup> Optional works under the contract are works in areas with unresolved access issues.

<sup>2</sup> End targets might be exaggerated. They are based on design reports.

<sup>3</sup> Revised target (previously 107 km) because 26 km of sewer lines were executed by other donors.

31/01/2022, given that the contractor will mobilize quickly, submit an updated work schedule, and show good progress.

2. During a meeting on 25/11/2021 with CDR and the Supervision Engineer, the Contractor verbally stated that He will not be able to remobilize due to changes in market conditions, especially the uncontrollable market prices of PVC pipes.
3. The Contractor was notified by CDR about the extension of time by fax on 13/12/2021 which was not received, and then by email on 20/12/2021. The Contractor replied to the notification on 21/12/2021 with reservations claiming that the decision did not mention any financial claims, even though the decision text was clear that claims submitted by the Contractor are under consideration.
4. The revision of financial claims is ongoing by the Supervision Engineer.
5. No site works during the reporting period; thus no monthly progress reports were submitted by the Supervision Engineer.

### 1.6. Action Plan

Task	Responsible	Expected date
Conclude amicable settlement with the Contractor	CDR – PMU	March 2022
Follow up on completion of snag list items	CDR - PMU	By March 2022
Submit TOR for Design Engineer, RELK, offer to prepare bidding documents for remaining works, for WB approval	CDR – PMU	January 2022
Rebidding of remaining works	CDR – PMU	March 2022
Resolve remaining access issues	CDR – PMU	Before start of works under new contract (May 2022)

## 2. **SUB-COMPONENT 1.2: EXPANSION OF THE SEWERAGE NETWORK TO CONNECT TO ANJAR WWTP (IBRD COST-US\$ 34 MILLION)**

Works under this subcomponent are divided into 3 lots. The Italian Government is funding the construction of Anjar WWTP to which the sewage network executed under this project will be connected. Lot 3 requires the issuance of an expropriation decree by the Council of Ministers based on the expropriation file submitted by CDR on 13/09/2021.



## 2.1. Project Description

Sub-component 1.2: Expansion of the sewage network to connect to the Anjar WWTP		
<b>Description</b>	<b>Covered Areas</b>	<b>Lot 1:</b> Bouerij, Makse, Mraijet, Taanayel, Wadi Delem, Zebdol, Jlala <b>Lot 2:</b> Chtaura, part of Taalabaya <b>Lot 3:</b> Saouri
	<b>Sewage network to be constructed</b>	<b>Total:</b> 239 km   <b>Lot 1:</b> 104 km   <b>Lot 2:</b> 135 km
	<b>Rehabilitation of existing network</b>	<b>Total:</b> 55 km   <b>Lot 1:</b> 23 km   <b>Lot 2:</b> 31 km
	<b>Number of new house chambers</b>	<b>Total:</b> 5,820   <b>Lot 1:</b> 2,070   <b>Lot 2:</b> 3,750
	<b>Beneficiary population by 2023</b>	<b>Total:</b> 116,680
<b>Consultant (QC1C5) (Consultant for preparation of Safeguards Instruments)</b>	<b>Name</b>	ELARD – Lebanon
	<b>Date of Notice to Commence</b>	29.09.2017
	<b>Contract Duration</b>	15 months
	<b>Contract Completion Date</b>	28.12.2018
	<b>New Contract Completion Date</b>	26.11.2021 (EOT CDR Decision # 455/2021/A)
<b>Procurement Details (Design Engineer)</b>	<b>Contract Amount</b>	US\$ 66,383
	<b>Procurement Category</b>	Consultancy Services [CS]
	<b>Procurement Method</b>	Direct Selection [CDS]
	<b>Market Approach</b>	Direct
	<b>Justification for Direct Selection</b>	22.03.2017
<b>Design Engineer (QC1C2)</b>	<b>Contract Award Date</b>	29.05.2017 (CDR Decision # 411/2017/A)
	<b>Name</b>	Bureau Technique pour le Développement [BTD] / Lebanon
	<b>Date of Notice to Commence</b>	09.10.2017
	<b>Contract Duration</b>	10 months
	<b>Contract Completion Date</b>	08.08.2018
	<b>Original Contract Amount</b>	US\$ 290,500
	<b>Contract Addendums / Variations</b>	
	Addendum Award Date   Notification Date	07.02.2019 (CDR Decision # 87/2019/A)   07.05.2019
	Revised Contract Duration	13 months <sup>4</sup>
	Revised Contract Completion Date	06.08.2019
	Amount of Variation Order	US\$ 102,000
	Revised Contract Amount	US\$ 392,500
<b>Procurement Details (Contractor)</b>	<b>Procurement Category</b>	Civil Works [CW]
	<b>Procurement Method</b>	Request for Bids [RFB]
	<b>Procurement Process</b>	Single Stage - One Envelope
	<b>Market Approach</b>	Open / International
	<b>Original estimated cost</b>	<b>Lot 1:</b> US\$ 13 million   <b>Lot 2:</b> US\$ 17 million
	<b>Bid launch date</b>	07.12.2020
	<b>Bid due date</b>	18.02.2021
	<b>No. of offers received</b>	<b>Lot 1:</b> 5   <b>Lot 2:</b> 7
	<b>Price range of offers received</b>	<b>Lot 1:</b> 5.5 to 10.5 million US\$ <b>Lot 2:</b> US\$ 8.9 million and US\$ 31 million
	<b>Contract Award Date</b>	<b>Lot 2:</b> 22.04.2021 (CDR Decision # 188/2021/A)
	<b>ReBid launch date (Lot 1)</b>	01.11.2021
	<b>ReBid due date (Lot 1)</b>	10.12.2021
	<b>No. of offers received</b>	4
	<b>Price range of offers received</b>	US\$ 8.7 M to US\$ 9.9 M
	<b>Contract Award Date</b>	Pending bid evaluation
<b>Contractor – LOT 2 (QC1W2)</b>	<b>Name</b>	Danash Contracting & Trading Co.
	<b>Date of Notice to Commence</b>	Pending contract notification by Contractor

<sup>4</sup> Additional three months (on the original 10 months duration) starting 07.05.2019

<b>Procurement Details (Supervision Engineer)</b>	<b>Contract Duration</b>	18 months
	<b>Contract Completion Date</b>	18 months from notice to commence
	<b>Original Contract Amount</b>	US\$ 6,905,853.13
	<b>Procurement Category</b>	Consultancy Services [CS]
	<b>Procurement Method</b>	Quality and Cost-Based Selection- QCBS
	<b>Market Approach</b>	Open / International
	<b>REOI launch date</b>	15.01.2020
	<b>REOI due date</b>	18.02.2020
	<b>RFP launch date</b>	04.12.2020
	<b>RFP due date</b>	18.02.2021
<b>Supervision Engineer (QC1C3)</b>	<b>Contract Award Date</b>	06.05.2021 (CDR Decision # 202/2021/A)
	<b>Name</b>	Su Yapi – KREDO [as subconsultant]
	<b>Date of Notice to Commence</b>	16.11.2021
	<b>Contract Duration</b>	18 Months
	<b>Contract Completion Date</b>	15.05.2023
	<b>Contract Amount</b>	US\$ 366,200

## 2.2. Site works completed to date

No site works to date.

## 2.3. Financial disbursements in US\$

Contract	Contractor/ Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Design of sewage network to connect to the Anjar WWTP (QC1C2)	BTD	392,500.00	-	317,970.00	81%	74,530.00

## 2.4. Key performance indicators

Key performance indicator	Target (2023)	Achieved (Up to Dec 2021)	%
Sewer network constructed (Km)	239	-	-
New household sewer chambers (number)	5,820	-	-
Quantity of municipal wastewater collected under the project & treated in Anjar (El Marj) WWTP (m <sup>3</sup> /day)	14,600	-	-
Direct Project Beneficiaries (number)	120,000	-	-

## 2.5. Work progress during the reporting period

The main activities during the reporting period were:

### 1. Re-bidding process for Lot 1 works for Contractor:

- Re-bidding documents for Lot 1 were submitted to the WB on 23/08/2021.
- Following revisions, the eligibility and qualification criteria for the Contractor's specific construction experience, the length of sewer lines completed in one year, was reduced from 70 km to 60 km. Re-bidding documents were approved by the WB on 06/10/2021.
- The bid was launched on 01/11/2021 and four bids were received on 10/12/2021.
- There are 4 qualified bidders. CDR is preparing the bid evaluation report to submit for CDR Board approval and then to share with the WB.

2. Discussion and final decision on the Performance Security text to be submitted by the awarded Contractor under Lot 2 as per the correspondences below:

- The awarded contractor, Danash Contracting & Trading Co., requested (Letter No. 6486 dated 24/09/2021) CDR approval on the altered text of Performance Security issued by the bank which states that the performance guarantee would be in locally transferrable money. He proposed to increase the retention to 15% of the contract amount and renounce the advance payment certificate.
- CDR shared the altered performance guarantee text with the WB on 30/09/2021 and the following feedback was received from the WB on 06/10/2021:
  - i. The Contractor should have been aware of the form of all guarantees to be submitted to enter into the bid.
  - ii. Concern on the Contractor's financial capability to mobilize if the retention amount is increased to 15% and the advance payment is renounced.
  - iii. Concern on how CDR would be able to use the money if it is locally transferrable (not in fresh USD) in case of forfeiture of the performance security.

The WB requested feedback from CDR on the above.

- Based on the meeting held at CDR with the WB team on 25/11/2021 and WB email on 26/11/2021 and 30/11/2021 (registered at CDR under ref. 8392/M.R. on 02/12/2021), the WB has rejected any adjustment to the content of the Performance Security form.
- The awarded Contractor was notified on 13/12/2021 to sign the Contract Agreement and submit the Performance Guarantees within 28 days i.e. by 10/01/2022.

## 2.6. Action Plan

Task	Responsible	Expected date
Submittal and approval of Bid Evaluation Report (BER) for Lot 1 to WB	CDR - WB	February 2022
Contract Signature with awarded bidder in Lot 1	CDR	End of March 2022
Lot 2 Contract notification by Danash Contracting and Trading Co. Contractor to provide Performance Security or CDR to forfeiture the bid security and rebid Lot 2.	CDR	January 2022

## 3. SUB-COMPONENT 1.3: EXPANSION OF SEWERAGE NETWORK TO CONNECT TO AITANIT WWTP (IBRD-US\$ 2.5 MILLION).

### 3.1. Project Description

Sub-component 1.3: Expansion of the sewage network to connect to the Aitanit WWTP		
Description	Covered Areas	Baaloul, Qaraoun
	Sewage network to be constructed	22 km
	Rehabilitation of existing network	-
	Number of new house chambers	168
	Beneficiary population by 2023	9,425
Procurement Details (Consultant for preparation of	Procurement Category	Consultancy Services [CS]
	Procurement Method	Direct Selection [CDS]
	Market Approach	Direct
	Justification for Direct Selection	26.04.2017

<b>Safeguards Instruments)</b>	<b>Invitation to Selected Consultant</b>	01.05.2017
	<b>Contract Award Date</b>	24.07.2017 (CDR Decision # 556/2017/A)
<b>Consultant (QC1C5) (Consultant for preparation of Safeguards Instruments)</b>	<b>Name</b>	ELARD – Lebanon
	<b>Date of Notice to Commence</b>	29.09.2017
	<b>Contract Duration</b>	15 months
	<b>Contract Completion Date</b>	28.12.2018
	<b>New Contract Completion Date</b>	26.11.2021 (EOT CDR Decision # 455/2021/A)
	<b>Contract Amount</b>	US\$ 66,383
<b>Procurement Details (Design Engineer)</b>	<b>Procurement Category</b>	Consultancy Services [CS]
	<b>Procurement Method</b>	Direct Selection [CDS]
	<b>Market Approach</b>	Direct
	<b>Justification for Direct Selection</b>	23.01.2018
	<b>Contract Award Date</b>	12.04.2018 (CDR Decision # 298/2018/A)
<b>Design Engineer (QC1C4a)</b>	<b>Name</b>	Bureau Technique pour le Développement [BTD] / Lebanon
	<b>Date of Notice to Commence</b>	07.11.2018
	<b>Contract Duration</b>	1 month
	<b>Contract Completion Date</b>	06.12.2018
	<b>Original Contract Amount</b>	US\$ 17,560
	<b>Contract Addendums / Variations</b>	None
<b>Procurement Details (Contractor)</b>	<b>Procurement Category</b>	Civil Works [CW]
	<b>Procurement Method</b>	Request for Bids [RFB]
	<b>Procurement Process</b>	Single Stage - One Envelope
	<b>Market Approach</b>	Open / National
	<b>Original estimated cost</b>	US\$ 2.5 million
	<b>Bid launch date</b>	04.06.2018
	<b>Bid due date</b>	31.07.2018
	<b>No. of offers received</b>	10
	<b>Price range of offers received</b>	US\$ 1.8 million - US\$ 3.7 million
<b>Contractor (QC1W3)</b>	<b>Contract Award Date</b>	09.12.2019
	<b>Name</b>	Khoury Contracting Company
	<b>Date of Notice to Commence</b>	27.05.2020
	<b>Contract Duration</b>	12 months
	<b>Original Contract Completion Date</b>	26.05.2021
	<b>Original Contract Amount</b>	US\$ 2,419,281.32
	<b>New Contract Amount</b>	US\$ 2,522,112.62
	<b>New Contract Completion Date</b>	26.11.2021 <sup>5</sup>
	<b>Contract Addendums / Variations</b>	US\$ 102,831.30 (CDR board decision No. 263/2021/A on 20/05/2021 – WB NO on 26/08/2021)
<b>Procurement Details (Supervision Engineer)</b>	<b>Date of Contract Addendum</b>	27.09.2021
	<b>Procurement Category</b>	Consultancy Services [CS]
	<b>Procurement Method</b>	Quality and Cost-Based Selection- QCBS
	<b>Market Approach</b>	Limited / National
	<b>REOI launch date</b>	Not Applicable
	<b>REOI due date</b>	Not Applicable
	<b>RFP launch date</b>	02.05.2019
	<b>RFP due date</b>	24.05.2019
<b>Supervision Engineer (QC1C4b)</b>	<b>Contract Award Date</b>	12.12.2019 (CDR Decision # 856/2019/A)
	<b>Name</b>	Bureau Technique pour le Développement [BTD] / Lebanon
	<b>Date of Notice to Commence</b>	27.05.2020
	<b>Contract Duration</b>	12 months
	<b>Contract Completion Date</b>	26.05.2021

<sup>5</sup> Extension of time request for May 2022 submitted to WB on 30/11/2021

<b>New Contract Completion Date</b>	26.11.2021 <sup>6</sup> (CDR board decision No. 263/2021/A on 20/05/2021 – WB NO on 26/08/2021)
<b>Contract Amount</b>	US\$ 63,331.34

### 3.2. Site works completed to date

Municipality	Original works (km)	Works completed by Contractor (km)	Remaining works (km)
Baaloul	3.2	3.1	0.1
Qaraoun	18.8	18.6	0.2
<b>Total</b>	<b>22</b>	<b>21.7</b>	<b>0.3</b>
<b>%</b>	<b>100</b>	<b>99%</b>	<b>2%</b>

### 3.3. Financial disbursements in US\$

Contract	Contractor/Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
ESMP/LAP Anjar and Aitanit (QC1C5)	ELARD	66,383.00	-	50,782.98	76%	15,600.02
Design of sewage network to connect to the Aitanit WWTP (QC1C4a)	BTD	17,560.00	-	15,804.00	90%	1,756.00
Expansion of sewage network to connect to the Aitanit WWTP (QC1W3)	Khoury Contracting Company	2,522,112.62	437,116.38	1,052,410.63	42%	1,469,701.99
Supervision of sewage network to connect to the Aitanit WWTP (QC1C4b)	BTD	62,832.67	27,323.11	53,853.09	86%	8,979.58

### 3.4. Key performance indicators

Key performance indicator	Target (2023)	Achieved (Up to DEC 2021)	%
Sewer network constructed (Km)	22	21.7	99
New household sewer chambers (number)	168	142	85
Quantity of municipal wastewater collected under the project & treated in Aitanit WWTP (m <sup>3</sup> /day)	465	-	-
Direct Project Beneficiaries (number)	2,461	-	-

### 3.5. Work progress during the reporting period

Monthly progress reports were submitted by the Supervision Engineer. During the reporting period, the following site works were executed:

- Excavation, bedding, pipe laying and backfilling works for sewer lines:

<sup>6</sup> Extension of time request requires CDR board approval and is contingent to the decision on the Contractor's extension of time.

- Around 98% of sewer lines in Baaloul were completed. The remaining works are inlet and outlet connections to PS and road reinstatement.
- Around 99% of sewer lines in Qaraoun. The remaining works are inlet and outlet connections to PS and road reinstatement.
- 7.3 % of the PS works were completed in Baaloul and Qaraoun. The PS works were delayed due to relocation of PS1, PS3 and PS6. CDR PMU prepared a [report](#) on PS relocation, and it was approved by the WB safeguards team on 15/12/2021.
- Road reinstatement works
- A 6-month EOT for the Contractor until May 2022 was submitted to the WB for approval on 30/11/2021. The reasons for extension of time are:
  - The Contractor was unable to start the works on PS due to the relocation of PS1, PS3 PS6 and potential relocation of PS4 and PS5 as initially requested by LRA.
  - The contractor was notified by VO1 (includes EOT up to 26/11/2021 and increase in the capacity of the wet pit size of the pumping stations on 26/08/2021 following WB approval.

### 3.6. Action Plan

Task	Responsible	Expected date
Decision on EOT for works contract or contract termination	CDR – WB	February 2022
In case of EOT approval: <ul style="list-style-type: none"> <li>• Completion of remaining works</li> <li>• Completion of works previously requested under VO2 under a new contract</li> <li>• Approval of EOT and VO of Supervision Engineer</li> </ul> In case of contract termination: <ul style="list-style-type: none"> <li>• Preparation of bidding documents for remaining works and obtain CDR board and WB approval</li> <li>• Launch the bid</li> <li>• Bid evaluation and contract signature with the awarded contractor</li> <li>• EOT of Supervision Engineer</li> </ul>	CDR	Depends on the task above.
Completion of land designation process for PS1, PS3, PS4, PS5, PS6 (the process is administrative and will not impact progress of works)	CDR legal department	April 2022

## COMPONENT 2: PROMOTION OF GOOD AGRICULTURAL PRACTICE, INCLUDING INTEGRATED PEST MANAGEMENT, TO REDUCE AGRO-CHEMICAL POLLUTION IN THE UPPER LITANI BASIN (QC2C1 - US\$1.5 MILLION)

### 1. Project Description

This Component supports targeted farmers in the Upper Litani Basin to adopt Integrated Pest Management practices and Good Agricultural Practices, which would contribute to reducing the agrochemical pollution and runoff into the Litani River and Lake Qaraoun. The component has four outputs:

- i) Assessment of current agricultural practices and development of a GAP-IPM program;
- ii) Training of professionals & facilitators in GAP-IPM practices;
- iii) Implementation of the GAP-IPM program at the farm level;
- iv) Evaluation and monitoring for sustainability.

Component 2: Promotion of Good Agricultural Practices		
Procurement Details	Procurement Category	Consultancy Services [CS]
	Procurement Method	UN Agencies (Direct) [UN]
	Market Approach	Direct
	Invitation to Selected Consultant	26.10.2016
	Contract Award Date	04.05.2017
Consultant	Name	Food & Agriculture Organization of the UN
	Date of Notice to Commence	09.06.2017
	Contract Duration	4 years
	Contract Completion Date	08.06.2021
	Contract Amount	US\$ 1,500,000
	Contract Addendums / Variations	Extension of time with no cost implications (CDR Decision # 293/2021 on 10/06/2021)
	New Contract Completion Date	31.12.2022 (awaiting WB NO)

### 2. Outputs Implementation Status

Output	Indicator	End Target	Progress to date	%
<b>Output 1:</b> Current agricultural practices and farmers' (men and women) roles and knowledge in the project area are analyzed and assessed, and good agricultural	1. Number of studies and analysis carried out at the inception period of the project	1 Baseline Study	1	100%
	2. Chemical analysis of crops, soil & water for pesticide / fertilizer residues, and chemical composition analysis of soil & water in pilot plots	60 Samples	59	98%
	3. Number of farmers targeted, areas and training curricula defined	280 farmers /year + 1 map of defined areas + 1 training curricula	76 farmers <sup>7</sup> + 203 farmers <sup>8</sup> + 1 map + 1 training curricula	100%
	4. Gaps identified in the agricultural practices	One list of identified gaps	1	100%

<sup>7</sup> 76 farmers targeted in one-on-one technical support visits

<sup>8</sup> 203 farmeres participated in at least one event (training, seminar, field day) organized by the project

Output	Indicator	End Target	Progress to date	%
practices including IPM programmes are developed.	5. Programmes developed to address the gaps of the agricultural practices	2 ICM/GAP Programmes	2	100%
	6. Number of manuals/guidelines on good agricultural practices/ICM developed	2 field guides /manuals	1	50%
<b>Output2:</b> The capacity of MoA professionals /facilitators, other stakeholders and farmers developed in IPM-Good agricultural practices.	1. Number of trainings for the technical staff of the projects, farmers and other stakeholders	6 training workshops	5	83%
	2. Number of professionals trained through the project	100 trained professionals	139	139%
	3. Number of female professionals trained and involved in the project implementation	50 females out of 100 professionals	75 out of 139	150%
	4. Number of specific and awareness raising programme to farmers and trainees	30 sessions	12	40%
	4.1. Percentage of attendees report feeling satisfied with sessions provided	60%	90%	150%
	5. Number of communication, outreach material, and media programmes published / released	1 short movie + 1 leaflet + 2 field guides/manuals	1 video + 1 leaflet + 1 field guide	70%
<b>Output 3:</b> Good agricultural practices including IPM programmes tested and implemented.	1. Number of ICM/good practices in agriculture programmes developed for target crops	2 ICM/GAP Programmes	2	100%
	2. Lists and specifications of agricultural inputs needed for the project prepared	List and Specs of agriculture inputs prepared	1 list prepared and updated regularly	100%
	3. Number of demo plots established and maintained at the target area	5 plots/year	7 plots/year on average	140%
	4. Number of one-on-one farmer technical support visits	8 visits/farmer (280*8 = 2,240 total visits)	9 visits/farmer (76*9 = 684 in total) 1 <sup>st</sup> season 2021 11 visits/farmer (total of 596) 2 <sup>nd</sup> season 2021  Total of 1280 visits in 2021	57% (125% per farmer)
<b>Output 4:</b> Project progress is monitored and	1. Midterm review report	1. Midterm review by end of second year	1	100%
	2. Evaluation report	2. Evaluation mission and report at the end of the project		At the end of the project



Output	Indicator	End Target	Progress to date	%
evaluated, and measures for sustaining the outcomes are well-defined	3. Final report	3. Final report and measures for sustaining the project outcomes developed and shared with GoL		At the end of the project

### 3. Financial disbursements in US\$

All payments to FAO are disbursed directly from the WB. As of December 2021, there is a pending payment of \$ 243,991 which was requested by FAO in November 2021. This is the last remaining payment under this contract.

Contract	Contractor/ Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Promote the use of GAP and IPM (QC2C1)	FAO	1,500,000	-	1,500,000	100	-

### 4. Key performance indicators

Key performance indicator	Target (2023)	Achieved (Up to DEC 2021)
Number of farmers benefited from the project have improved their livelihood by adopting safe sustainable and cost effective agricultural practices	140	
% of decreased cost of production by application of Good Agricultural Practices including ICM and other practices	10%	20.5%
Extent of cultivated area covered by the project	5600 dunums	A total of 26,941 dunums in 2021: <ul style="list-style-type: none"> <li>• 17,403 dunums (early season 2021)</li> <li>• 9,538 dunums (late season 2021)</li> </ul>
% of reduction in the use of fertilizers by the end of the project	50%	53.8 % (average) 2021: <ul style="list-style-type: none"> <li>• 51% of the total quantity used in the first season 2021 and</li> <li>• 56.6 % of the total quantity used in the second season 2021</li> </ul>
% of reduction in the use of pesticides sprays by the end of the project	30%	56% average: <ul style="list-style-type: none"> <li>• 61.6% in the first season 2021</li> <li>• 51.2% in the second season 2021</li> </ul>
Number of farmers trained in improved agriculture technology	280	279
Number of farmers adopting improved agricultural technology	140	

**5. Work progress during the reporting period**

- Technical support visits to potato farmers. During the later potato season 2021, 53 farmers received about 596 technical support visits with an average of about 11 visits per farmer.
- 5 comparative pilot plots were established and harvested. At least 45% increase in production plots with Integrated Crop Management compared to the yield from plots run by farmers.
- 53.8% reduction in the quantities of fertilizers compared to the compared to the baseline average.
- 56.4% reduction in pesticides on average (early and late seasons 2021)
- Selection of 5 potato farmers and establishing 5 comparative plots for the new potato season (early 2022)
- Filming, script writing, and editing of a movie showing the field work done with potato farmers.

**6. Action Plan**

- Print Integrated Potato Management field guide and distribute it to beneficiaries in collaboration with the Ministry of Agriculture.
- Film missing parts of the technical movie on integrated potato production, editing, voice over and adding visual aids.
- Start New potato season
- Select new group of farmers and start technical support field visits
- Conduct technical training for technical staff on IPM/GAP if the situation of COVID-19 allows.

## COMPONENT 3: SOLID WASTE, WATER QUALITY MONITORING, CAPACITY BUILDING, AND PROJECT MANAGEMENT (IBRD-US\$ 3 MILLION)

This component aims at improving pollution management around Qaraoun Lake through technical assistance. It is composed of 5 sub-components focused on: studies in solid waste management, which will complement the investments made in this sector by other donors; improving water quality and resource modeling, to help the LRA in monitoring the quality of the Litani river; trash removal from Litani river bed through outreach activities with local communities; and improving the capacity of the BWE to manage water supply, and wastewater in the Beqaa. The component also includes capacity building for MoEW and the contracts for the Project Management Unit at CDR.

### **SUB-COMPONENT 3.1: TECHNICAL STUDIES IN SOLID WASTE MANAGEMENT (US\$0.6 MILLION)**

#### **1. Studies for Closure and Rehabilitation of Bar Elias Dumpsite**

##### **1.1. Project Description**

The project has the following objectives:

- Assess Bar Elias dumpsite and conduct a detailed topographic survey and provide a detailed quantification of the amount of waste, and conduct a material characterization of the waste within the dumpsite;
- Assess potential closure and rehabilitation methods in collaboration with MoE, CDR and PMU, taking into consideration social, environmental and technical factors;
- Conduct the social and environmental studies needed to implement the closure and rehabilitation of the dumpsite. Prepare an Environmental Impact Assessment report and assist the CDR in obtaining the approval of the Ministry of Environment;
- Undertake the study and the technical designs for the closure and rehabilitation of the dumpsite.

<b>Sub-component 3.1: Technical, Environmental and Social Studies for the Closure and Rehabilitation of Bar Elias Dumpsite</b>		
<b>Procurement Details</b>	<b>Procurement Category</b>	Consultancy Services [CS]
	<b>Procurement Method</b>	REOI - RFP
	<b>REOI launch date</b>	05.06.2019
	<b>REOI due date</b>	04.07.2019
	<b>Approval of shortlisted consultants</b>	11.10.2019
	<b>RFP launch date</b>	16.12.2019
	<b>RFP due date</b>	03.02.2020
	<b>Contract Award Date</b>	09.11.2020
<b>Consultant (QC3C1a)</b>	<b>Name</b>	Libanconsult AGM sal
	<b>Contract Notification Date</b>	03.12.2020
	<b>Contract Duration</b>	10 months
	<b>Contract Completion Date</b>	02.10.2021
	<b>New Contract Completion Date</b>	30.05.2022 (Pending CDR Board decision approval)
	<b>Contract Amount</b>	US\$ 67,775.15

## 1.2. Project Deliverables Status

Deliverables	Due date based on revised work plan	Date of submission
<b>Topographic map</b>	09.12.2020	21.12.2020
<b>Waste characterization report</b>		
Draft preparatory version	09.12.2020	21.12.2020
Including results of waste characterization and biogas investigation	03.02.2021	06.05.2021
<b>Assessment of Closure and Rehabilitation Options Report + Preliminary Design Report</b>	03.02.2021	06.05.2021
<b>Environmental and Social Impact Assessment Study</b>		
Scoping report	30.11.2021	Delays by MoE and the municipality
EIA report	30.12.2021	Delays due to delays in scoping phase
<b>Draft Bidding Documents</b>	30.03.2022	
<b>Cost estimate report</b>	30.05.2022	
<b>Final Bidding Documents</b>	30.05.2022	
<b>Final Detailed Design Report</b>	30.05.2022	

There has been delays in submitting the project deliverables due to the following challenges:

- Difficulty in organizing meetings with the municipality of Bar Elias to present the rehabilitation proposal and obtain approval. The municipality has not been very responsive and is not taking ownership to advance the project and rehabilitate a dumpsite that was active for 30 years. Lack of capacity is the main reason.
- The municipality did not contact all the landowners yet due to COVID-19 cases at the municipality in the month of December.

## 1.3. Financial Disbursements in US\$

Contract	Contractor/Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Study / Closure & Rehabilitation of Bar Elias Dumpsite (QC3C1a)	Libanconsult AGM sal	67,775.15	12,425.44	12,425.44	18	55,349.71

## 1.4. Work progress during the reporting period

- Meeting with municipal council to present the study on 03/11/2021.
  - o The Consultant, LibanConsult, presented the rehabilitation alternatives
  - o The municipality agreed with the recommended alternative to rehabilitate the dumpsite in place without any transfer of wastes to another location. Peripheral embankment for slope stability would require expropriation of 18 lots for a total area of 10,128 m<sup>2</sup>. The dumpsite is already encroaching 17 of these lots by a total area of around 4,500 m<sup>2</sup>. Works will not include bottom lining because the dumpsite has been active for 30 years and it is not possible to excavate all the wastes. Capping of the re-profiled dump will be done.
  - o Land expropriation is a challenge given the lack of funds at government level.

- CDR E&S consultant sent comments on the draft scoping report on 19/11/2021. The comments were well noted by the Consultant, and the scoping report will be revised accordingly.
- Field visit with WB team and the Minister of Environment to Bar Elias sorting facility and adjacent dumpsite on 22/11/2021.
- Municipal decision No. 178 was issued on 30/11/2021 and received by CDR on 09/12/2021 approving the proposed rehabilitation method of the dumpsite.
- The Consultant shared the property records for the lots to be expropriated to the municipality so that the latter can contact the affected landowners for a meeting. The number of landowners is 165. Afterwards, a public consultation can be held for the EIA scoping phase.

### 1.5. Action Plan

Task	Responsible	Expected date
CDR board decision approving EOT of until May 2022	CDR	TBD. Next CDR board meeting
Updated work plan given the recent delays in scheduling a public consultation	Consultant - CDR	
CDR board decision approving new EOT (updated work plan)	CDR	
Meeting with landowners and public consultation as part of EIA scoping phase	Consultant	February 2022
Revision of EIA Scoping Report	CDR – MoE	March 2022
Submittal of EIA Report	Consultant	April 2022

## 2. Odor Impact Assessment from Solid Waste Management Facilities and Landfills within the Litani River Upper Basin

### 2.1. Project Description

The project has the following objectives:

- Assessment of odors from existing Municipal Solid Waste Landfills and Management Facilities within the Upper Litani Basin and neighboring Cazas;
- Assessment of potential odors from potential Municipal Solid Waste Landfills and Management Facilities within the Upper Litani Basin and neighboring Cazas;
- Odor dispersion modeling of odors from both municipal solid waste management facilities and Landfills;
- Provide a model/diagram showing the odor dispersion range per scale with respect to Solid Waste Management Facilities and Solid Waste Landfills;
- Assess the social and environmental impact of odors based on the results of the odor dispersion model with respect to the Solid waste facilities in Baalbeck, Zahle, Bar Elias and Jeb Janine;
- Provide practical recommendations and suggestions on improved odor management for existing and potential solid waste management facilities.

Sub-component 3.1: 2. Odor Impact Assessment from Solid Waste Management Facilities and Landfills within the Litani River Upper Basin		
Procurement Details	Procurement Category	Consultancy Services [CS]
	Procurement Method	REOI - RFP
	REOI launch date	03.06.2019
	REOI due date	02.07.2019
	Approval of shortlisted consultants	19.09.2019
	RFP launch date	16.12.2019
	RFP due date	19.02.2020
Consultant (QC3C1b)	Name	JV: Rafik El Khoury (Lebanon) & Odournet (France)
	Contract Notification Date	09.04.2021
	Contract Duration	8 months
	Contract Completion Date	08.12.2021
	New Contract Completion Date	09.07.2022 (Pending CDR board approval)
	Contract Amount	US\$ 72,944.54

## 2.2. Project Deliverables Status

Deliverables	Due date based on revised work plan	Date of submission
Data report (literature review data, data collected, readings of conducted odor measurement)	09.06.2021	09.06.2021 <sup>9</sup>
Readings of conducted odor measurements and estimates for odor emission rates	09.03.2022	
Odor dispersion modelling report	09.06.2022	
Assessment of social and environmental impact	09.06.2022	
Final report	09.07.2022	

On 08/12/2021, the Consultant, JV: Rafik El Khoury – Odournet, requested an extension of time of 7 months due to the challenges below:

- Absence of odour analysis laboratory in Lebanon, so samples will be sent to a laboratory in France
- Limitations due to COVID-19 pandemic
- Lengthy discussions with the MoE to agree on the methodology of work, which was approved by MoE on 08/12/2021.

## 2.3. Financial Disbursements in US\$

Contract	Contractor/ Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Study / Assessment of Odor Impact from SWM facilities (QC3C1b)	JV: Rafik El Khoury - Odournet	72,944.54	-	-	-	72,944.54

<sup>9</sup> The submitted report did not have readings of conducted odor measurements as none were conducted yet. Ongoing discussions between the Consultant and the MoE on the methodology.

## **2.4. Work progress during the reporting period**

Following several meetings and discussions, MoE approved the Consultant's, JV: Rafik El Khoury – Odournet, methodology on 08/12/2021. 16 samples will be collected; 4 samples per each of the following locations: landfill, leachate treatment pond, sorting plant, and composting plant in the Bekaa.

## **2.5. Action Plan**

Follow up and review the deliverables as per Section 2.2.

# **3. SESA Study for the National Integrated Solid Waste Strategy**

## **3.1. Project Description**

The project has the following objectives:

- To assess the legal, legislative and institutional framework and capacity in relation to the National Integrated Solid Waste Management Strategy (NISWMS);
- To identify the positive and negative social and environmental impacts and the risks associated with the NISWMS;
- To determine the key environmental and social constraints that should be taken into consideration during the development and implementation of the NISWMS;
- To ensure that the National Strategy meets solid waste sector growth and development targets with the least environmental and social impacts;
- To provide adequate environmental, health and social baseline information relevant to the strategy for the purpose of supporting the development of government related policy and plans;
- To identify the economic, environmental and social opportunities associated with the NISWMS implementation and propose a set of actionable recommendations to enhance environmental sustainability and social equity;
- To provide recommendations for optimizing the strategy and ensuring that environmental, social and economic concerns are accounted for and incorporated within the proposed strategy;
- To present opportunities for practical application of the SESA in Lebanon;
- To present applicability of methodological and procedural SEA approach outlined in the SEA decree (8213/2012) Lebanon.

Sub-component 3.1: SESA Study for the National Integrated Solid Waste Strategy		
Procurement Details	Procurement Category	Consultancy Services [CS]
	Procurement Method	REOI - RFP
	REOI launch date	03.2020
	REOI due date	04.2020
	Approval of shortlisted consultants	06.2020
	RFP launch date	11.12.2020
	RFP due date	16.02.2021
Consultant (QC3C1c)	Name	JV: LDK (Greece) & ELARD (Lebanon)
	Contract Notification Date	19.11.2021
	Contract Duration	10 months
	Contract Completion Date	19.09.2022
	Contract Amount	US\$ 109,889.13
	Contract Addendums / Variations	None to date

### 3.2. Project Deliverables Status

Deliverables	Due date based on work plan	Date of submission
Inception report	19.01.2022	
Scoping SESA report	19.04.2022	
Draft SESA report	19.07.2022	
Final SESA report	19.09.2022	
Final SESA executive summary	19.09.2022	

### 3.3. Financial Disbursements US\$

Contract	Contractor/Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
SESA Study for the National Integrated Solid Waste Strategy	JV: LDK - ELARD	109,889.13	-	-	-	109,889.13

### 3.4. Work progress during the reporting period

- A kick-off meeting was held on 14/10/2021 with the Consultant, JV LDK-ELARD, CDR, MoE and the WB.
- Official contract notification date on 19/11/2021 following CDR internal signature procedures.

### 3.5. Action Plan

Follow up and review the deliverables as per Section 3.2.

## 4. Sludge Management Feasibility Study for the Upper Litani River Basin

### 4.1. Project Description

The objectives of the consultancy works are to prepare a feasibility study for sustainable sludge management in the Bekaa Region which falls under the administration of the BWE, and present justified and prioritized solutions for sustainable sludge management.



Sub-component 3.1: Sludge Management Feasibility Study for the Upper Litani River Basin		
Procurement Details	Procurement Category	Consultancy Services [CS]
	Procurement Method	Direct Selection
	REOI launch date	N.A.
	REOI due date	N.A.
	Approval of shortlisted consultants	N.A.
	RFP launch date	N.A.
	RFP due date	N.A.
Consultant (QC3C13)	Name	Cabinet Merlin
	Contract Notification Date	25.08.2020
	Contract Duration	5 months
	Original Contract Completion Date	24.01.2021
	Contract Amount	US\$ 99,000
	Contract Extension of Time	CDR board decision No. 482 on 29.09.2021
	New Contract Completion Date	28.12.2021

## 4.2. Project Deliverables Status

Deliverables	Due date based on work plan	Date of submission
Draft feasibility study	24.11.2020	26.11.2020
Final feasibility study	24.01.2020	25.01.2021

## 4.3. Financial Disbursements in US\$

Contract	Contractor/ Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Sludge Management Feasibility Study for the Upper Litani River Basin (QC3C13)	Cabinet Merlin	99,000.00	77,037.35	77,037.35	78%	21,962.65

## 4.4. Work progress during the reporting period

The Consultant, Cabin Merlin, submitted the final report including a fifth scenario for sludge management (disposal of dried sludge in a landfill within 5 km of the treatment plant) on 29/12/2021 as requested by CDR PMU.

## **SUB-COMPONENT 3.2: IMPROVEMENT IN WATER QUALITY MODELING - LRA (IBRD-US\$0.7 MILLION)**

As described in previous reports, this subcomponent originally had the following activities:

- LRA Water Governance Study
- Purchase of water monitoring stations
- Cleaning Parts of the Litani River in the Upper Litani River Basin
- Website for LRA

However, based on LRA letter to CDR on 05/11/2020:

- LRA requested to cancel cleanup activities, since 20 km of Litani River at Haouche El Sneid, Haouche El Rafka, Bednayel, Temnine Tahta, Bar Elias, El Marj, and Zahle were cleaned by LRA.
- LRA requested to cancel the procurement of water lab equipment as this was already procured through funding from USAID. The equipment was to be received by LRA on 31/01/2021. Training on lab testing was also done in October 2019 under a project funded by UNESCO.
- LRA requested to cancel awareness raising activities as the latter is done regularly by LRA through NGOs, social media and LRA website.

CDR will address these modifications in the next loan restructuring. Reporting will therefore be on the remaining activity; website development for LRA.

## 1. Website for LRA

### 1.1. Project Description

3.2: Website for Litani River Basin (QC3C12)		
Procurement Details	Procurement Category	Consultancy Services [CS]
	Procurement Method	Quality and Cost-Based Selection [QCBS]
	Market Approach	Open / Local
	REOI launch date	Not applicable
	REOI due date	Not applicable
	RFP launch date	18.01.2019
	RFP due date	07.03.2019
	Contract Award Date	20.06.2019 (CDR Decision # 515/2019/A)
Consultant (QC3C12)	Name	Arabia GIS / Lebanon
	Date of Notice to Commence	17.10.2019
	Contract Duration	5 months + 1-yr Maintenance + 3-yr Hosting
	Contract Completion Date	16.10.2022
	Contract Amount	US\$ 63,314.5
	Contract Addendums / Variations	None to date

### 1.2. Project Deliverables Status

Deliverables	Due date based on work plan	Date of submission
Fully operational website		
Hosting service	3 years after website launch	
Web Coordinator/Maintainer of the website	1 year after website launch	
Training of LRA designated staff	3 months after website launch	
Final report	At the end of hosting service	

There has been delays at the project start due to October 17<sup>th</sup>, 2019 events, followed by the economic crisis and the COVID-19 pandemic. LRA, CDR and the consultant were agreeing on website design and content especially that the scope of work has changed from a website for Litani River Basin to a website for Litani River Authority that includes a page for pollution prevention projects at the Litani Basin.

### 1.3. Financial Disbursements in US\$

Contract	Contractor/ Consultant	Committed amount	Disbursed amount (JUL – DEC 2021)	Disbursed amount (Up to DEC 2021)	%	Committed Undisbursed
Website for Litani River (QC3C12)	Arabia GIS	63,314.50	-	-	-	63,314.50

### 1.4. Work progress during the reporting period

- Consultant, ArabiaGIS, submitted revised Detailed Requirements Document (DRD) to CDR on 03/03/2021.
- CDR PMU approved the DRD on 04/03/2021.
- Consultant submitted revised concept visual design on 13/04/2021. LRA and CDR reviewed the design and discussed comments in a meeting on 23/04/2021. The final website design (visual concept design) was completed on 04/11/2021.
- The Consultant submitted a variation order of \$12,500 on 25/11/2021. The Consultant requested a VO to cover additional man-months for the implementation of new requirements that he claims were not part of the contract's scope. The VO did not refer to the DRD approved in March 2021.
- CDR PMU shared the VO and relevant documents with the WB for feedback on 03/12/2021.

### **SUB-COMPONENT 3.3: CAPACITY BUILDING OF THE BWE**

This sub-component intends to finance the recruitment of three high-level staff: a wastewater engineer, an administrator/customer relations officer, and a financial officer at BWE. It also includes IT development services for Microsoft Dynamics Navision Software at the Bekaa Water Establishment.

- Contract of the administrative officer at BWE ended on 31/05/2021 and was not renewed based on BWE board decision.
- Contract of the project manager – CDR ended on 30/06/2021 and was not renewed based on BWE board decision.
- Contract of the financial officer ended on 30/09/2021 and was not renewed based on BWE board decision.
- The WB, during the bi-weekly meeting on 07/10/2021, requested a report on the capacity built at BWE by the above experts under LQPPP. CDR PMU is following up with the experts to receive the requested reports.
- REOI for IT support was launched (second round) on 01/11/2021. On 01/12/2021, one EOI was received by email on time; however, it was blocked by CDR server due to the size of the email. The email was released after the deadline. Decision to relaunch the REOI or to open the single EOI for evaluation is pending CDR board decision.

**SUB-COMPONENT 3.4: CAPACITY BUILDING OF MOEW**

This sub-component intends to provide support to MoEW in overseeing the wastewater sector performance. It includes updating the SESA for National Water Sector Strategy (NWSS). Based on the Implementation Support Mission (CDR Registration No. 4702/ M.R. dated 09/07/2021), a study on the sustainability of wastewater services in Anjar, Zahle and Aitanit was added under this subcomponent.

**1. SESA for the Updated National Water Strategy****1.1. Project Description**

<b>3.4: SESA for the Updated National Water Strategy (QC3C6c)</b>		
<b>Procurement Details</b>	<b>Procurement Category</b>	Consultancy Services [CS]
	<b>Procurement Method</b>	Direct Selection
	<b>REOI launch date</b>	N.A.
	<b>REOI due date</b>	N.A.
	<b>RFP launch date</b>	N.A.
	<b>RFP due date</b>	N.A.
<b>Consultant (QC3C6c)</b>	<b>Name</b>	ECODIT/ Lebanon
	<b>Date of Notice to Commence</b>	23/09/2021
	<b>Contract Duration</b>	6 months
	<b>Contract Completion Date</b>	22/03/2022
	<b>Contract Amount</b>	US \$99,973.00
	<b>Contract Addendums / Variations</b>	None to date

**1.2. Project Deliverables Status**

<b>Deliverables</b>	<b>Due date based on work plan</b>	<b>Date of submission</b>
Project work plan	08.10.2021	11.10.2021
Scoping SESA report	26.11.2021	10.12.2021
Draft SESA report	21.01.2022	
Final SESA report	04.03.2022	

**1.3. Financial Disbursements in US\$**

<b>Contract</b>	<b>Contractor/ Consultant</b>	<b>Committed amount</b>	<b>Disbursed amount (JUL – DEC 2021)</b>	<b>Disbursed amount (Up to DEC 2021)</b>	<b>%</b>	<b>Committed Undisbursed</b>
SESA for the water Strategy 2020 (QC3C6c)	ECODIT	99,973.00	-	-	-	99,973.00

**1.4. Work progress during the reporting period**

- A kick-off meeting was held between the Consultant, ECODIT, MoEW and CDR
- The consultant submitted a revised work plan on 11/10/2021
- SESA Scoping report was submitted on 10/12/2021 and revised by CDR E&S Consultant. The main comments were on the methodology of the impact assessment. Comments were shared with MoEW and the Consultant on 30/12/2021.

## **2. Sustainability Study of Wastewater Services in Aitanit, Zahle, and Anjar**

The ToR, prepared by MoEW, was approved by the WB on 12/01/2021. The next steps are:

- WB No Objection on ToR in January 2022
- CDR board decision to launch the REOI in February 2022
- Launch the REOI (February 2022 – March 2022)
- CDR board decision approving the shortlisted companies and launching of RFP (April 2022)
- CDR to evaluate the offers received and CDR board decision for contract award (June 2022)

### **SUB-COMPONENT 3.5: PROJECT MANAGEMENT (IBRD-US\$0.52 MILLION)**

This component intends to finance the establishment of a functioning Project Management Unit (PMU) at the CDR. Funding will cover the cost of consultants, field visits, office equipment, audits, operating costs necessary for project implementation, and activity monitoring and evaluation.

## IV. MONITORING AND EVALUATION

The monitoring and evaluation results framework was developed with WB team, FAO and CDR PMU during several meetings on 15/07/2021, 29/10/2021 and 05/11/2021.

Project Development Indicators							
Indicator Name	Baseline	Cumulative Target Values					
		2017	2018	2019	2020	2021	End Target (2023)
Direct project beneficiaries (Number)	0	-	41,107	51,385	51,385	51,385	285,000
Quantity of municipal wastewater collected and treated under the project (daily flow in m <sup>3</sup> )	0	-	7,480	9,350	9,350	9,350	30,000
Percentage of reduction in the excess quantities of <b>Fertilizers</b> used by the end of the project (%)	0						50%
Percentage of reduction in the number of pesticides sprays by the end of the project (%)	0						30%

Intermediate Results Indicators							
Indicator Name	Baseline	Cumulative Target Values					
		2017	2018	2019	2020	2021	End Target (2023)
Sewer network constructed in the project area (km)	0	-	8.3	19	32.6	40.7	300
New household sewer chambers connections constructed under the project (Number)	0	-	0	173	213	315	10,000
Farmers trained in Integrated Pest Management (IPM) practices (Number)	0				280	280	280
Farmers who have adopted Integrated Pest Management (IPM) (Number)	0						140
SESA for Solid Waste Strategy report prepared following a consultative approach and submitted to MoE for review	-	-	-	-	-	-	YES
SESA for Water Strategy report prepared following a consultative approach and submitted to MoE for review	-	-	-	-	-	-	YES
Participants in consultation activities during project implementation (Number)	76	41	52	52	52	72	100
Female participants in consultation activities during project implementation (Number) – (Sub-Type: Breakdown)	13	2	3	3	3	11	40

PDO Level Indicators	
<b>Indicator 1.</b>	Direct project beneficiaries (Number)
<b>Definition /Description of the Indicator</b>	This indicator measures the number of people that will be served by the wastewater network connected to the WWTPs in Zahle, El Marj and Aitanit, to be constructed under Component 1.
<b>PDO Objective</b>	Reduce quantity of untreated municipal sewage discharged into the Litani River
<b>Frequency</b>	Annually
<b>Data Source</b>	Design report (households survey, topographical surveys) in 2015, 2016 and 2017
<b>Methodology for Data Collection</b>	For new lines: Survey of houses and number of residents upon the completion of each sewer line under the project <u>For existing lines to be connected to the network under the project:</u> Estimation of project beneficiaries based on data collected from the municipality
<b>Responsibility for Data Collection</b>	PMU and Supervision Engineer
<b>Proposed Target (2023)</b>	285,000
<b>Remark</b>	Revised end target value (PAD: 344,000)
<b>Indicator 2.</b>	Quantity of municipal wastewater collected and treated under the project (daily flow in m <sup>3</sup> )
<b>Definition /Description of the Indicator</b>	This indicator measures the cumulative quantity of municipal wastewater collected and treated under the project. This consists of the daily flow in m <sup>3</sup> resulting from: <ul style="list-style-type: none"> <li>- Extension of the wastewater network to connect to the Zahle WWTP</li> <li>- Extension of the wastewater system to connect to the Aitanit WWTP</li> </ul> <i>The flow to Anjar WWTP was not considered, due to risks of non-completion of Anjar WWTP by 2023.</i>
<b>PDO Objective</b>	Reduce quantity of untreated municipal sewage discharged into the Litani River
<b>Frequency</b>	Annually
<b>Data Source</b>	Design report
<b>Methodology for Data Collection</b>	Calculated based on estimated per capita wastewater flow rate in m <sup>3</sup> /day and verified with the additional average influent flow at the WWTP (compared to baseline average flow)
<b>Responsibility for Data Collection</b>	PMU and Supervision Engineer
<b>Proposed Target (2023)</b>	20,000 m <sup>3</sup> /day
<b>Remark</b>	Revised target (PAD: 30,000 m <sup>3</sup> /day)
<b>Indicator 3.</b>	Percentage of reduction in the excess quantities of <b>Fertilizers</b> used by the end of the project (%)
<b>Definition /Description of the Indicator</b>	This indicator measures the Percentage of reduction in the use of chemical Fertilizers used by beneficiary farmers (280 potato farmers) in the project area.
<b>PDO Objective</b>	Improve pollution management around Qaraoun Lake
<b>Frequency</b>	Annually
<b>Data Source</b>	Practice Monitoring Form filled during one on one technical field visits conducted by the project field engineer
<b>Methodology for Data Collection</b>	Technical field engineers will complete a "Practice Monitoring Form" regularly and at intervals to monitor the change in the use of fertilizers. The indicator is an average value of the two seasons.
<b>Responsibility for Data Collection</b>	FAO
<b>Proposed Target (2023)</b>	Fifty (50) % reduction of the excess quantity of fertilizers used
<b>Remarks</b>	New indicator
<b>Indicator 4.</b>	Percentage of reduction in the number of <b>pesticides sprays</b> by the end of the project. (%)
<b>Definition /Description of the Indicator</b>	This indicator measures the Percentage of reduction in the number of pesticides sprays used by beneficiary farmers (280 potato farmers) in the project area. A pesticide spray is defined as one pesticide sprayed at a specific time on the crop: i.e. a spray tank of a mix of 2 pesticides is considered as two (2) pesticides sprays.
<b>PDO Objective</b>	Improve pollution management around Qaraoun Lake
<b>Frequency</b>	Annually

<b>Data Source</b>	Practice Monitoring Form filled during one on one technical field visits conducted by the project field engineer
<b>Methodology for Data Collection</b>	Technical field engineers will complete a "Practice Monitoring Form" regularly and at intervals to monitor the change in the use of fertilizers. The indicator is an average value of the two seasons.
<b>Responsibility for Data Collection</b>	FAO
<b>Proposed Target (2023)</b>	Thirty (30) % reduction in the number of pesticides sprays
<b>Remarks</b>	New indicator.

Intermediate Level Indicators	
<b>Indicator 5.</b>	Sewer network constructed in the project area (km)
<b>Definition /Description of the Indicator</b>	This indicator measures the cumulative length (km) of sewer network constructed in the project area. This consists of the constructed sewer network connecting to the Zahle, Aitanit and Anjar WWTP.
<b>Related Component</b>	Sub-components 1.1, 1.2 and 1.3
<b>Frequency</b>	Bi-annually
<b>Data Source</b>	Supervision Engineer's monthly progress reports.
<b>Methodology for Data Collection</b>	Supervision Engineer to inspect and approve the contractor's executed sewer lines.
<b>Responsibility for Data Collection</b>	PMU
<b>Proposed Target</b>	300 km
<b>Remarks</b>	Revised end target (PAD: 200 km)
<b>Indicator 6.</b>	New household sewer chambers connections constructed under the project (Number)
<b>Definition /Description of the Indicator</b>	This indicator measures the cumulative number of new household sewer chambers connections constructed along the sewer network built under the project.
<b>Related Component</b>	Sub-components 1.1, 1.2 and 1.3
<b>Frequency</b>	Bi-annually
<b>Data Source</b>	Supervision Engineer's monthly progress reports.
<b>Methodology for Data Collection</b>	Supervision Engineer to inspect and approve the contractor's constructed house chambers.
<b>Responsibility for Data Collection</b>	PMU
<b>Proposed Target (2023)</b>	10,000
<b>Remarks</b>	Indicator reformulated and revised end target (PAD: 7,300). The increase in house chamber units is due to the addition of new localities and areas served under this project.
<b>Indicator 7.</b>	Farmers trained in Integrated Pest Management (IPM) practices (Number)
<b>Definition /Description of the Indicator</b>	This indicator measures the number of farmers who have been technically supported/ trained on Integrated Pest Management (IPM) practices of their crops, including relying on soil analysis to assess fertilizer needs for their crop and monitoring for pest presence and crop damage level before making any intervention decision. Integrated Pest Management (IPM) is an ecosystem approach to crop production and protection that combines different management strategies and practices to grow healthy crops and minimize the use of pesticides. IPM is an approach-based method for analysis of the agro-ecosystem and the management of its different elements to control pest and keep them at an acceptable level (action threshold) with respect to the economic, health and environmental requirements.
<b>Related Component</b>	Component 2
<b>Frequency</b>	Annually
<b>Data Source</b>	Attendance sheet, training reports, and technical support visits reports
<b>Methodology for Data Collection</b>	Simple count of beneficiaries who received technical support services or trainings seminars/field days on IPM practices
<b>Responsibility for Data Collection</b>	FAO
<b>Proposed Target (2023)</b>	280 farmers



<b>Remarks</b>	Revised end target (PAD: 225).
<b>Indicator 8.</b>	Farmers who have adopted Integrated Pest Management (IPM) (Number)
<b>Definition /Description of the Indicator</b>	This indicator measures the number of farmers who have adopted one or more IPM practices (tactics) when managing their crop
<b>Related Component</b>	Component 2
<b>Frequency</b>	Annually
<b>Data Source</b>	Farmer follow-up questionnaire
<b>Methodology for Data Collection</b>	Follow up with farmers after receipt of technical support services or training seminars/field days reporting adoption rate relative to planting seasons
<b>Responsibility for Data Collection</b>	FAO
<b>Proposed Target</b>	140 farmers
<b>Remarks</b>	New indicator.
<b>Indicator 9.</b>	SESA for Solid Waste Strategy report prepared following a consultative approach and submitted to MoE for review
<b>Definition /Description of the Indicator</b>	Preparation of a Strategic Environmental and Social Assessment for the National Solid Waste Strategy based on Decree 8213/2012. The SESA includes public consultation and interview with all relevant stakeholders.
<b>Related Component</b>	Sub-component 3.1
<b>Frequency</b>	-
<b>Data Source</b>	-
<b>Methodology for Data Collection</b>	Interviews, focus group meetings, public consultation, literature review, Geographic Information System (GIS)
<b>Responsibility for Data Collection</b>	Consultant
<b>Proposed Target</b>	Yes
<b>Remarks</b>	New indicator.
<b>Indicator 10.</b>	SESA for Water Strategy report prepared following a consultative approach and submitted to MoE for review
<b>Definition /Description of the Indicator</b>	Preparation of a Strategic Environmental and Social Assessment (updating the SESA of 2015) for the 2020 updated National Water Sector Strategy based on Decree 8213/2012. The SESA includes public consultation and interview with all relevant stakeholders.
<b>Related Component</b>	Sub-component 3.4
<b>Frequency</b>	-
<b>Data Source</b>	-
<b>Methodology for Data Collection</b>	Interviews, focus group meetings, public consultation, literature review, Geographic Information System (GIS)
<b>Responsibility for Data Collection</b>	Consultant
<b>Proposed Target</b>	Yes
<b>Remarks</b>	New indicator.
<b>Indicator 11.</b>	Participants in consultation activities during project implementation (Number)
<b>Definition /Description of the Indicator</b>	<p>This indicator measures the cumulative number of participants in the public consultation activities during project implementation. This includes consultation meetings related to the following:</p> <ul style="list-style-type: none"> <li>- ESMF, RPF and EMP/IEE and LAP related to the expansion of the sewer network to connect to the Zahle WWTP (since it is conducted in 2014 we assume it is the baseline)</li> <li>- ESMP and LAP related to the expansion of the sewer network to connect to the Aitanit WWTP (participants are included in Year 1 (2017))</li> <li>- ESMP and LAP related to the expansion of the sewer network to connect to the Anjar WWTP (participants are included in Year 2 (2018))</li> <li>- Strategic Environmental and Social Assessment for the National Integrated Solid Waste Strategy</li> <li>- Technical, Environmental and Social Studies for the Closure and Rehabilitation of Bar Elias Dumpsite</li> <li>- Strategic Environmental and Social Assessment for the updated National Water Strategy</li> </ul>
<b>Related Component</b>	Component 3
<b>Frequency</b>	Annually

<b>Data Source</b>	Attendance sheet of the Consultants' public hearing and consultations
<b>Methodology for Data Collection</b>	Counting the participants during the public consultation and workshops.
<b>Responsibility for Data Collection</b>	Consultant and PMU
<b>Proposed Target (2023)</b>	100
<b>Remarks</b>	The modality of the public consultation process depends on the prevailing COVID-19 situation and related restrictions on public meetings.
<b>Indicator 12.</b>	Female participants in consultation activities during project implementation (Number) – (Sub-Type: Breakdown)
<b>Definition /Description of the Indicator</b>	This indicator measures the cumulative number of females who will directly benefit from the project.
<b>Related Component</b>	Component 3
<b>Frequency</b>	Annually
<b>Data Source</b>	Attendance sheet of the Consultants' public hearing and consultations.
<b>Methodology for Data Collection</b>	Counting the female participants during the public consultation and workshops.
<b>Responsibility for Data Collection</b>	Consultant and PMU
<b>Proposed Target (2023)</b>	40
<b>Remarks</b>	The modality of the public consultation process depends on the prevailing COVID-19 situation and related restrictions on public meetings.

## V. FINANCIAL MANAGEMENT & PROCUREMENT

Financial Disbursement in Fiscal Years (USD Million)								
Fiscal Year	Year 0	Year 1	Year 2	Year 3	Year 4		Year 5	Year 6
	2017	2018	2019	2020	Q1-Q2 2021	Q3-Q4 2021	2022	2023
Expected Annual	0	5	5	10	10		10	15
Expected Cumulative	0	5	10	20	30		40	55
Actual Annual	1.821	0.313	3.891	1.145	0.71	0.20		
Actual Cumulative	1.821	2.134	6.025	7.17	7.88	8.08		
Annual Target Achieved %			77.82%	11.45%	7.05%	1.95%		
Cumulative Target Achieved %			60.25%	35.85%	26.26%	26.93%		

Component		Contractor / Consult.	Committed Amount	Disbursed Amount (JUL – DEC 2021)	Disbursed Amount (Up to DEC 2021)	%	Committed Undisbursed	Remaining Uncommitted Budget
<b>Component 1 (IBRD-US\$ 50.5 million, GoL-US\$ 5 million)</b>			<b>21,251,626.18</b>	<b>484,202.29</b>	<b>4,611,651.28</b>	<b>22%</b>	<b>16,639,974.90</b>	<b>29,248,373.82</b>
<b>Subcomponent 1.1: Expansion of Sewage Network to Connect to Zahle WWTP:</b>								
QC1W1	Expansion of sewage network to connect to the Zahlé WWTP	ASDI	10,539,562.49	-	2,850,945.10	27%	7,688,617.39	
<b>Subcomponent 1.2: Expansion of Sewage Network to Connect to Anjar WWTP:</b>								
QC1W2	Expansion of sewage network to connect to the Anjar WWTP	Danash Contracting & Trading Co. SARL	6,905,853.13	-	-	-	6,905,853.13	
<b>Subcomponent 1.3: Expansion of Sewage Network to Connect to Aitanit WWTP:</b>								
QC1W3	Expansion of sewage network to connect to the Aitanit WWTP	Khoury Contracting	2,522,112.62	437,116.38	1,052,410.63	42%	1,469,701.99	
<b>Subcomponent 1.4: Design, Supervision, Environment and Social Consultancy Services:</b>								
QC1C1	Supervision of sewage network to connect to the Zahlé WWTP	DAH Taleb /Novec	378,622.27	19,861.00	269,885.48	71%	108,736.79	
QC1C2	Design of sewage network to connect to the Anjar WWTP	BTD	392,500.00	-	317,970.00	81%	74,530.00	
QC1C3	Supervision of sewage network to connect to the Anjar WWTP	SU YAPI / KREDO	366,200.00	-	-	-	366,200.00	
QC1C4a	Design of sewage network to connect to the Aitanit WWTP	BTD	17,560.00	-	15,804.00	90%	1,756.00	
QC1C4b	Supervision of sewage network to connect to the Aitanit WWTP	BTD	62,832.67	27,224.91	53,853.09	86%	8,979.58	
QC1C5	ESMP/LAP Anjar and Aitanit	ELARD	66,383.00	-	50,782.98	76%	15,600.02	
<b>Component 2 (IBRD-US\$ 1.5 million)</b>			<b>1,500,000</b>	<b>-</b>	<b>1,500,000<sup>1</sup></b>	<b>100%</b>	<b>0</b>	<b>0</b>
QC2C1	Promote the use of GAP and IPM	FAO	1,500,000	-	1,500,000	100%	0	

<sup>1</sup> Component 2 is disbursed to FAO through the World Bank

Component	Contractor / Consult.	Committed Amount	Disbursed Amount (JUL – DEC 2021)	Disbursed Amount (Up to DEC 2021)	%	Committed Undisbursed	Remaining Uncommitted Budget
<b>Component 3 (IBRD-US\$ 3.0 million)</b>		<b>2,366,993.95</b>	<b>243,767.94</b>	<b>1,824,164.85</b>	<b>76%</b>	<b>567,230.82</b>	<b>608,604.33</b>
<b>Subcomponent 3.1: Technical Studies in Solid Waste Management - MoE:</b>							
QC3C1	Lower Litani Environment and Investment Plan, MoE	ELARD	196,000	19,600.00	190,355.20	97%	5,644.80
QC3C1a	Study / Closure & Rehabilitation of Bar Elias Dumpsite	Libanconsult AGM sal	67,775.15	12,425.44	12,425.44	18%	55,349.71
QC3C1b	Study / Assessment of Odor Impact from SWM facilities	Rafik El-Khoury & Partners / Odournet - France	72,944.54	-	-	-	72,944.54
QC3C1c	SESA for MoE SWM strategy	LDK for Management Consulting LLC / ELARD	109,889.13	-	-	-	109,889.13
QC3C9	Solid waste expert - MoE <sup>1</sup>	R. Nassif	167,200.00	-	132,000.00	79%	35,200.00
QC3C9a	Env. Solid waste expert – MoE	K. Hashash	42,900.00	20,280.00	20,280.00	47%	22,620.00
QC3C13	Study / Sludge Management for Upper Litani River Basin	Cabinet Merlin	99,000.00	77,037.35	77,037.35	78%	21,962.65
<b>Subcomponent 3.2: Improvement in Water Quality Modeling - LRA:</b>							
QC3C2	LRA Water Governance Study	-	-	-	-	-	-
QC3C12	Website for Litani River + 1-yr Maintenance + 3-yr Hosting	Arabia GIS	63,314.50	-	-	-	63,314.50
QC3G1	Purchase of water monitoring stations	-	-	-	-	-	-
QC3NC1	Cleaning Parts of the Litani River in the Upper Litani River Basin	-	-	-	-	-	-
<b>Subcomponent 3.3: Capacity Building of the BWE:</b>							
QC3C4	Wastewater Engineer - BWE	-	-	-	-	-	-
QC3C5a	Administration Officer - BWE	R. Yazbek	253,304.25	3,617.67	253,304.25	100%	-
QC3C5b	Assistant - BWE	W. Saleh	55,184.96	-	55,184.96	100%	-
QC3C7a	Financial Officer - BWE	M. Nahas	167,200.00	16,000.00	160,644.44	96%	6,555.56
QC3C7b	IT Development Services - BWE	-	-	-	-	-	-

<sup>1</sup> Resigned. Resignation letter<sup>1</sup> submitted to CDR on 04/09/2020 and work stopped on 05/10/2020. An amicable settlement was reached with CDR on 20/05/2021.

Component	Contractor / Consult.	Committed Amount	Disbursed Amount (JUL – DEC 2021)	Disbursed Amount (Up to DEC 2021)	%	Committed Undisbursed	Remaining Uncommitted Budget
<b>Subcomponent 3.4: Capacity Building of the MoEW:</b>							
QC3C6a	Focal Point, MoEW	S. Hoayek	99,000.00	16,000	99,000.00	100%	-
QC3C6b	Wastewater Consultant, MoEW	-	-	-	-	-	-
QC3C6c	SESA for Water Strategy 2020	ECODIT	99,973.00	-	-	99,973.00	-
QC3C6d	Sustainability of Wastewater in Aitanit, Zahle & Anjar - MoEW	-	-	-	-	-	-
<b>Subcomponent 3.5: Project Management:</b>							
QC3C10	Project Manager – CDR	C. Bechir	277,860.00	4,560.00	272,588.32	98%	5,271.68
QC3C11a	Financial Officer - CDR	M. Labban	176,662.64	14,843.04	164,137.32	93%	12,525.32
QC3C11b	Procurement Officer - CDR	P. Abi Akl	172,260.00	18,360.00	163,080.00	95%	9,180.00
QC3C11c	Environment/Social Officer - CDR	M. Khoury	111,840.00	15,840.00	110,040.00	98%	1,800.00
QC3C11d	Project Engineer - CDR	R. Jamal	109,120.00	17,404.44	90,044.44	83%	19,075.56
QC3C11e	Rockwise PMIS Software Maintenance - CDR	Dynamesh	20,497.50	5,124.38	15,373.13	75%	5,124.37
QC3C11f	Environment/Social Officer - CDR	D. El Halawani	28,600.00	7,800.00	7,800.00	27%	20,800.00
	Translation of the complete guidelines for preserving riparian ecosystem	Sleem Translation & Services	870.00	-	870.00	100%	0
<b>Front End Fee</b>			<b>137,500</b>		<b>137,500</b>		<b>0</b>
<b>Overall Total</b>			<b>25,256,120.13</b>	<b>727,970.23</b>	<b>8,073,316.13</b>	<b>32%</b>	<b>17,207,205.72</b>
							<b>29,856,978.15</b>

## **VI. ANNEXES**

The table below summarizes the project modifications since December 2016:

<b>Component 1: Improvement of Municipal Sewage Collection</b>	
<b>Subcomponent 1.1: Expansion of the sewerage network to connect to the Zahle WWTP</b>	
<b>Change:</b>	Removal of 26 km out of the original scope of 107 km of sewage networks (new total is 81 km)
<b>Reason:</b>	26 km sewer lines were executed by local authorities and financed by other donors
<b>Change:</b>	Emergency sewer works executed in Zahle and Hazzerta
<b>Reason:</b>	Request of Zahle municipality on 26/09/2018 and Hazzerta municipality on 08/10/2018
<b>Change:</b>	Connection of Taalabaya sewer to the Zahle WWTP existing lift station in Fayda
<b>Reason:</b>	The existing sewer is discharging into the Berdawni River (tributary of Litani River) an estimated raw wastewater flow of 5,000 m <sup>3</sup> /d. The change was based on CDR's request on 13/11/2018.
<b>Change:</b>	Addition of an overflow pipe for an existing lift station in Fayda area, upstream of Zahle WWTP.
<b>Reason:</b>	To prevent pollution in case of overflow. The change was based on CDR's request in October 2018
<b>Subcomponent 1.2: Expansion of sewerage network to connect to Anjar WWTP</b>	
<b>Change:</b>	Increase the designed sewer networks from <b>135 km to 360 km</b> (addition of 185 km)
<b>Reason:</b>	After completing the topographical survey by the design consultant, it was noticed that the proposed sewer lines routes in the 11 villages exceeds the estimated length in the contract; furthermore, two villages (Qab Elias and Saouiri) were added to the initial scope in the PAD
<b>Subcomponent 1.3: Expansion of sewerage network to connect to Aitanit WWTP</b>	
<b>Change:</b>	Increase the designed sewer networks from <b>13 km to 22 km</b> (addition of 9 km)
<b>Reason:</b>	During site investigation, it was noticed that some areas in the two villages were not included in the design implemented by MoEW. The expansion of the sewage network to connect to the Aitanit WWTP will include two villages (Baaloul and Qaraoun) instead of four, since the sewer networks in the other two villages were implemented by UNICEF under the directives of MoEW.
<b>Component 2: Promotion of Good Agricultural Practice, including Integrated Pest Management, to reduce agro-chemical pollution in the upper Litani basin</b>	
<b>Change:</b>	FAO's contract extended up to December 2022 at no additional cost (initial contract with FAO was up to June 2021).
<b>Reason:</b>	The MoA requested FAO for project extension until end of Dec 2022.



<b>Component 3: Solid Waste, Water Quality Monitoring, Capacity Building, and Project Management</b>	
<b>Subcomponent 3.1: Technical Studies in Solid Waste Management (MoE)</b>	
<b>Change:</b>	<p>The below activities and studies were added:</p> <ul style="list-style-type: none"> <li>a) Business Plan for Combatting Pollution of the Lower Litani River Basin (Completed in 2019)</li> <li>b) Odor Impact Assessment from Solid Waste Management Facilities and Landfills within the Litani River Upper Basin (Contract awarded to Rafic Khoury and Odornet JV. WB approved the submitted waiver for international arbitration on Dec. 9th, 2020. Contract signature was postponed due to COVID-19 lockdown).</li> <li>c) Strategic Environmental and Social Assessment study for the National Solid Waste Management Strategy (CDR Tendering Department launched the RFP to the shortlisted consultants on Dec. 14th 2020 and submission date is Jan. 12th 2021).</li> <li>d) Sludge Management study for the Upper Litani River Basin (Draft report submitted by the Consultant on Dec. 11th, 2021).</li> </ul>
<b>Reason:</b>	The establishment of a sorting facility in Rashia was canceled due to public opposition. The above listed alternative activities/studies were requested by MoE.
<b>Subcomponent 3.3: Capacity building of the BWE</b>	
<b>Change 1:</b>	Request IT services development
<b>Reason 1:</b>	BWE is facing operational and reporting issues in the implemented ERP which requiring IT intervention to solve the issues
<b>Subcomponent 3.4: Capacity Building of the MoEW</b>	
<b>Change 1:</b>	Recruitment of an individual consultant for a role of Focal Point at MoEW ( <i>Direct Selection of IC, October 2019</i> )
<b>Reason 1:</b>	Based on the request of the MoEW
<b>Change 2:</b>	<p>Request the following studies:</p> <ul style="list-style-type: none"> <li>- SESA for the updated National Wastewater Strategy</li> <li>- Sustainability Study of Zahleh Anjar &amp; Aitanit Systems</li> </ul>
<b>Reason 2:</b>	MoEW requested to recruit an individual consultant for the wastewater sector. (Evaluation of applicants was done in Feb 2020 and none complied with MoEW requirements). Then MoEW requested to replace the individual consultant by activities that support the implementation of the updated National Wastewater Strategy. Since the strategy was updated in 2020, the SESA from 2015 also requires updating. Also MoEW proposed a study to tackle the challenges and to ensure the sustainability of the Zahle, Anjar, and Aitanit wastewater systems.
<b>Subcomponent 3.5: Project Management</b>	
<b>Change:</b>	Recruitment of a Project Engineer to assist the Project Manager in the administrative works. (Awarded in October 2019)

<b>Reason:</b>	The Project Manager was assumed the responsibilities of the wastewater engineer allocated for BWE in addition to his responsibilities
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**REPUBLIC OF LEBANON**  
**COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION**

**Lake Qaraoun Pollution Prevention Project**  
Loan Agreement No. LB-8637 – Project ID IBRD P147854

**Environmental and Social Safeguards Report**

Period Covered: October 1, 2021 – December 31, 2021

Revision	Date	Prepared by
0	January 14 <sup>th</sup> , 2022	Environmental and Social Consultant – CDR PMU
1	February 8 <sup>th</sup> , 2022	Environmental and Social Consultant – CDR PMU

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## **ABBREVIATIONS AND ACRONYMS**

CDR – Council for Development and Reconstruction  
CESMP – Construction Environmental and Social Management Plan  
ESMP – Environmental and Social Management Plan  
E&S – Environmental and Social  
GRM – Grievance Redress Mechanism  
LAP – Land Acquisition Plan  
LQPP – Lake Qaraoun Pollution Prevention Project  
MoE – Ministry of Environment  
MoEW – Ministry of Energy and Water  
NISWMS - National Integrated Solid Waste Management Strategy  
NWSS – National Water Sector Strategy  
PMU – Project Management Unit  
PS – Pumping Station  
SESA – Strategic Environmental and Social Assessment  
SWM – Solid Waste Management  
WB – World Bank  
WWTP – Waste Water Treatment Plant

## 1. Introduction

The objective of the E&S safeguards quarterly report is to present updates on the implementation of the E&S management and monitoring plans for all site works under Component 1, improvement of municipal sewage collection, of LQPP. It reports on the Contractor's compliance to the measures required by the CESMP and the ESMP. It also presents updates on LAP implemented by CDR. The report also presents updates on Component 3.1, technical studies in solid waste management, and Component 3.4, capacity building at MoEW in what relates to the SESA for NWSS. This report covers the period between October 2021 and December 2021.

## 2. Component 1.1: Expansion of the sewerage network to connect to Zahle WWTP

Total length of sewer lines (contract): 107 km

Total length of sewer lines executed by the municipality from other financing sources: 27 km

Total length of sewer lines (revised): 80 km

Total length of sewer lines executed: 19 km

Total length of remaining sewer lines works: 61 km

### 2.1. E&S Instruments

Table 1: List of E&S documents approved by the WB

Document Title	Date of Approval
<a href="#">Environmental and Social Management Framework (ESMF)</a>	12/02/2015
<a href="#">Resettlement Policy Framework (RFP)</a>	12/02/2015
<a href="#">Initial Environmental Examination &amp; Environmental Management Plan – Expansion of Zahle Sewer Network</a>	12/02/2015
<a href="#">Land Acquisition Plan</a>	11/03/2015
Construction Environmental, Social and Safety Management Plan (CESMP)	11/02/2019

### 2.2. Project Activities

Since April 2021, no works were registered on site. The Supervision Engineer, JV Dar Taleb – Novec, confirmed that the manholes whose covers were stolen, as previously reported, were covered with concrete. When works resume, manhole covers would be installed based on the snag list. The snag list is attached in Appendix 1. The Supervision Engineer will conduct a site visit to update the snag list and check the status of executed works prior to contract termination. The status of the contract is summarized below;

- CDR was in the process of terminating the contract with the Contractor, ASDI, and initiating a rebidding for the remaining works in the first two quarters of 2021. The Contractor was not able to continue the works due to the financial crisis in the country and difficulty in procuring materials.
- However, CDR High Level Management agreed to give the Contractor a chance to continue works (Decision 404/2021 dated 28/07/2021). Thus, contract termination and rebidding processes were not continued.
- A justification report for extension of time was sent to the WB for approval on 06/10/2021.
- On 20/11/2021, following revisions, the WB approved the request for extension of time for the Contractor until 31/01/2022, given that the Contractor will mobilize quickly, submit an updated work schedule, and show good progress. If the Contractor's performance was not satisfactory, no further extensions will be provided.
- During a meeting with CDR and the Supervision Engineer on 25/11/2021, the Contractor verbally stated that he will not be able to remobilize due to changes in market conditions, especially the uncontrollable market prices of PVC pipes.
- The Contractor was notified of the decision for extension of time on 21/12/2021.
- To date, the Contractor did not mobilize. The contract will most likely be terminated and a rebidding of the remaining works is expected in February 2022.

### 2.3. Environmental and Social Monitoring Plan

No activities to be monitored on site since April 2021.

### 2.4. Land Acquisition Plan

#### 2.4.1. Collection of Expropriation Compensation

The status of completion is still at 30%. As of December 2021, there are 16 out of 25 plots whose owners (a total of 30 landowners) still did not collect compensation fees under Expropriation Decree No. 683 dated 12/05/2017. All legal procedures were completed by CDR expropriation department. Landowners who could be reached in person were notified via a letter. For those that could not be reached, the dispatcher inquired about their phone number at the Mukhtar and a notification was posted in two newspapers, as stipulated by law.

Since September 2021, CDR PMU has been contacting the landowners and requesting support from Zahle and Hazerta municipality to reach landowners whose contact information is not available at CDR. CDR PMU informed the landowners and the municipalities that the compensation fees are available at CDR for collection, and provided them with a list of required documents, and described the process of fees collection.

The main challenge is obtaining the needed documents due to:

- Employee strikes at public institutions (land registry and Ministry of Finance);
- Incomplete legacy transmission of plot ownership among several heirs;
- Unpaid fees to issue official property records;



- Landowners might consider the compensation amount low relative to the effort and fees needed to obtain the required documents, especially with the current devaluation of the Lebanese Pounds.

The table below lists the plots whose owners are yet to collect compensation fees. The remaining compensation amount to be collected is 261,315,000 LBP out of 376,755,000 LBP.

Table 2: Plots pending collection of compensation fees as of 31/12/2021 (Expropriation Decree No. 683)

Cadastral Zone	Plot No.	No. of Owners	Total Plot Area (m2)	Expropriated Area (m2)	Compensation Amount (LBP)	Notification	Updates
<b>Haoush El Oumara</b>	489	1	571,297	2,185	65,550,000	2 Newspapers on 4/9/2018	Landowner's wife was informed by CDR PMU.
	490	1	49,517	1,316	39,480,000	2 Newspapers on 4/9/2018	Zahle municipality informed the landowner. CDR PMU shared needed documents with owner's lawyer.
	507	1	274,400	907	27,210,000	2 Newspapers on 4/9/2018	Landowner's wife informed by CDR PMU.
<b>Maalaga</b>	1152	3	7,676	140	9,333,334	2 Newspapers on 8/6/2018	Zahle municipality informed landowners.
					9,333,333	2 Newspapers on 8/6/2018	
					9,333,333	2 Newspapers on 8/6/2018	
	1154	2	2,912	58	1,942,856	2 Newspapers on 8/6/2018	Zahle municipality informed landowners.
					11,657,144	Dispatcher on 16/5/2018	CDR PMU contacted the landowner who was informed in 2018 by CDR expropriation unit. The owner stated that incomplete legacy transmission of plot ownership among several heirs is the reason why compensation fees are not collected yet.
	1158	2	1,798	65	6,500,000	2 Newspapers on 8/6/2018	Zahle municipality informed landowners.
					6,500,000	2 Newspapers on 8/6/2018	

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	1166	6	3,622	16	257,143	2 Newspapers on 8/6/2018	Zahle municipality informed landowners.
					457,143	2 Newspapers on 8/6/2018	
					457,143	2 Newspapers on 8/6/2018	
					457,143	2 Newspapers on 8/6/2018	
					257,142	2 Newspapers on 8/6/2018	
					514,286	2 Newspapers on 8/6/2018	
<b>Hazerta</b>	321	3	4,975	222	6,938	2 Newspapers on 8/6/2018	CDR PMU followed up with the landowner and informed him about the required documents.
					5,546,531	Dispatcher on 1/6/2018	
					5,546,531	Dispatcher on 1/6/2018	
	345	2	175,786	251	5,020,000	Dispatcher on 16/5/2018	Hazerta municipality informed the landowners.
					5,020,000	Dispatcher on 16/5/2018	
	905	2	1,692	82	3,690,000	Dispatcher on 21/5/2018	Land ownership needs amendment. Hazerta municipality informed the new landowner. The latter should submit an updated property record to the expropriation committee in Beqaa and request an amendment of the committee's decision. Accordingly, CDR expropriation department would issue a new dispatcher to the owner to collect the compensation fees.
					3,690,000	Dispatcher on 23/5/2018	
	932	1	17,984	62	3,720,000	2 Newspapers on 8/6/2018	Hazerta municipality informed the landowner.
	988	1	4,625	142	8,520,000	Dispatcher on 31/5/2018	Hazerta municipality is informed. The challenge is in obtaining required documents

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							due to employee strikes at public institutions (Ministry of Finance)
	1076	1	4,936	214	10,700,000	Dispatcher on 18/5/2018	Hazerta municipality informed landowners.
	1232	1	*	105	11,875,000	2 Newspapers on 8/6/2018	Hazerta municipality identified the landowner and informed him.
	1321	1	3,149	90	4,500,000	Dispatcher on 31/5/2018	Hazerta municipality informed the landowners.
Qaa Rim	2143	2	359	106	1,766,667	2 Newspapers on 8/6/2018	Based on a letter from Qaa Rim Mukhtar, landowners are not residing in town. No contact information available.
					2,473,333	2 Newspapers on 8/6/2018	
16 plot      30 owners      1,124,728 m <sup>2</sup> 5,961 m <sup>2</sup> 261,315,000 LBP							

#### 2.4.2. Resolution of Access Issues

##### Zahle:

1. On 20/10/2021, CDR PMU met with the representative of Zahle municipality, Mr. Nadim Hajjar, and the Supervision Engineer, Dar Taleb, to discuss pending access issues. The main outcomes are listed described below:
  - A municipal decision permitting the passage of 6 sewer lines (around 2.7 km) in defacto roads was requested to resolve access issues at these lines.
  - The municipality representative informed us about Decree No. 15899/1964 that proves that sewer lines ZH-Q2 and ZH-T pass through expropriated areas, thus access issues at these lines were resolved.
  - Verify that sewer lines ZH-M and ZH-W3 pass in public domain, thus resolve access issues.
  - Cancellation of line ZH-U5 (164 m) since no houses would benefit from it as they are already connected to other lines, and there is no clear public domain between Zahle-Maalaqa and Ferzol where the line passes.
  - Set an action plan to resolve the below issues:
    - o Sewer line ZH-A7: The municipality will review the cadastral maps per plot to check if a public domain exists. If it does, then access issues are resolved, if not, then the municipality can obtain waivers for 6 lots. Landowners are willing to sign the waiver because they support the project. Due to the employee strike in public sector in Lebanon, there have been challenges in obtaining the maps from the land registry.
    - o The Supervision Engineer will survey sewer lines ZH-W2 (90 m) and a section of ZH-A (200 m) to verify if the line can be moved to the existing public domain.
2. The waivers for the two remaining plots (477 and 489 in Zahle at line ZH-A) were obtained on 17/12/2021. The lots are under Zahle municipal expropriation decree no. 1020/2007, which is not implemented yet. The landowner, Mrs. Miriam Skaff, signed the waiver on 17/12/2021 following the events described below:
  - CDR PMU requested support from the Minister of Energy and Water who knows Mrs. Skaff during field visit on 22/11/2021.
  - Letter from Litani River Authority to Mrs. Skaff on 02/12/2021 requesting her to sign the letter to facilitate the implementation of the project with benefits to the communities in Zahle and surrounding municipalities.
  - Litani River Authority disclosed the letter content and purpose to online media platforms on 14/12/2021.
  - Visit to Mrs. Skaff on 17/12/2021 by Minister of Energy and Water, and CDR.
3. A head of expropriation committee in Beqaa was assigned based on Decree 8568 dated 21/12/2021. This will allow the implementation of Zahle municipal expropriation decree no. 1020/2007 to execute the works without resorting to the waivers.

Updates on the above points are summarized in Table 3 below.

Saadnayel:

A site visit to the location of sewer line SD-T in Saadnayel was also done on 20/10/2021 followed by a meeting with the mayor of Saadnayel to discuss the encroachment at that line. A wall was built by private lot owners encroaching the public domain (Figure 1). This encroachment was **not** noted by the design consultant, Rafik El Khoury, at the time of design preparation in 2015, nor in the LAP also in 2015. On the other side of the wall, the two owners have used the space as follows:

- At Lot No. 2148, the owner extended his backyard area and constructed a toilet, mini kitchen, fence and other landscaping features. (Figure 2).
- At Lots No. 2289 and 1932, the other lot owner (toy store) is using the public domain to store a generator and other materials (tiles, steel bars) (Figure 3).

The mayor of Saadnayel stated in the meeting that the encroachment can be removed. He was keen on the successful completion of the project and requested additional sewer lines (around 800 m) to cover new areas. CDR PMU looked into the possibility of diverting the flow instead to the adjacent network under Lot 2 Anjar works. However, this option is not feasible since the sewer line (500 mm) connected to Zahle WWTP, already executed, would need to be increased in size. Constructing a parallel line to accommodate for additional flow is difficult due to congested infrastructure at this point.

Further discussions with the mayor are needed on when the encroachment can be removed. Another solution would be for SD-T line to pass in the private lot adjacent to public domain. There is already a concrete channel for storm water. Land donation from lot owners would solve access issues.



Figure 1: Wall encroaching public domain at design location of sewer line SD-T  
(Date: 20/10/2021)



Figure 2: (Left): At the opposite side of the wall; (Right): Behind the gate, extended backyard area encroaching the public domain (Date: 20/10/2021)



Figure 3: Encroached area used for storage of material (Date: 20/10/2021)

### Hazerta:

For HZ-L passing along 500 m through the Convent's private property, the updated design for this section was finalized on 17/11/2021. A meeting needs to be scheduled with the Convent's lawyer for design approval and signature of the waiver to resolve access issue at HZ-L line and the lines connected to it.

The table below summarizes the updates and actions required per line.

Table 3: Overview of Pending Lines with Access Issues

Cadastral Area	Line ID	Total Length of Pending Lines (m)	Line Sections with No Issues (m)	Line Sections with Issues (m)	Updates	Actions / Status
Zahle - El Ferzol (Total network 36,046 m)	ZH-A1	944	-	944	Connected to ZH-A	Resolved.
	ZH-A2	522	-	522		
	ZH-A4	2,980	-	2,980		
	ZH-A6	878	-	878		
	ZH-A7	618	-	618		
					Based on cadastral maps, ZH-A7 can be shifted to the other side of the road to resolve access issues. Cadastral maps of the new lots were reviewed to check if the lots are subdivided and a public domain exists. Lots 1986,1987, 2046, 1995, 2042,2006, 2005. Pending verification of two lots 1985 and 2041.	<b>Review cadastral maps of lot 1985 and 2041.</b> If public domain exists, issue resolved. If not, obtain waiver.  OR  <b>Implementation of Municipal Decree 1020/2007</b>
	ZH-A	6,815	-	6,815	Waivers for 2 pending lots obtained and Municipal Decree 1020/2007 can be implemented.	Resolved.
	ZH-B3	375	-	375	Not Connected to WWTP until execution of ZH-A	Resolved.
	ZH-C	1,200	-	1,200	Not Connected to WWTP until execution of ZH-A	Resolved.
	ZH-D	396	-	396	De facto road.	<b>Municipal decision for de facto roads requested since October 2021. Pending.</b>
	ZH-M	2,128	1,403	725	De facto road. Plot 1062 is subdivided legally and line can pass within that road.	Resolved.
	ZH-P	675	-	675	Connected to SD-T	Once SD-T is resolved, no additional action



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Cadastral Area	Line ID	Total Length of Pending Lines (m)	Line Sections with No Issues (m)	Line Sections with Issues (m)	Updates	Actions / Status
	ZH-Q	2,568	-	2,568	Access issue: Water Course	Needs design verification when works resume.
	ZH-Q1	204	-	204	Not Connected to WWTP until execution of ZH-Q. Once ZH-Q is executed, no additional action.	
	ZH-Q2	252	-	252	Line passes in public domain based on Decree No. 15899/1964	Resolved. Obtain copy of decree.
	ZH-T	1,247	726	521	Line passes in public domain based on Decree No. 15899/1964	Resolved. Obtain copy of decree.
	ZH-T2	1,806	-	1,806	Access issue: Water Course	May need design verification when works resume.
	ZH-U1	657	-	657	Connected to ZH-A	Resolved.
	ZH-U2	357	-	357		
	ZH-U3	114	-	114		
	ZH-U4	156	-	156		
	ZH-U5	164	-	164	Cancellation of the line based on meeting with Zahle municipality representative. No project beneficiaries.	-
	ZH-U6	644	-	644	De facto road.	<b>Municipal decision for de facto roads requested since October 2021. Pending.</b>
	ZH-U8	292	-	292	Connected to ZH-A	Resolved.
	ZH-W2	90	-	90	Line may be shifted to public domain adjacent to de facto road as per topographical survey.	Resolved.
	ZH-W3	463	291	172	Line will be relocated to public domain.	Resolved.
	FZ-A	1,372	-	1,372	Connected to ZH-A	Resolved.
	FZ-B	494	-	494		
	FZ-C	228	-	228		
	FZ-D	186	-	186		

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Cadastral Area	Line ID	Total Length of Pending Lines (m)	Line Sections with No Issues (m)	Line Sections with Issues (m)	Updates	Actions / Status
	FZ-E	1,688	-	1,688		
	<b>Total Zahle &amp; Ferzol</b>	<b>30,513</b>	<b>2,420</b>	<b>28,093</b>		
Saadnayel – Taalbaya (Total network 7,926 m)	TB-A	500	-	500	Connected to SD-T	Once SD-T is resolved, no additional action
	TB-B	225	-	225	The line is cancelled. A letter is needed from the municipality approving cancellation.	<b>Follow up with municipality.</b>
	TB-C1	261	-	261	Connected to SD-T	Once SD-T is resolved, no additional action
	TB-C2	328	-	328	Sewer line passes in railway property	Line will be cancelled.
	TB-C3	120	-	120	Connected to SD-T	Once SD-T is resolved, no additional action
	TB-C4	162	-	162		
	TB-C5	72	-	72		
	TB-C6	244	-	244	Sewer line passes in railway property	Line will be cancelled.
	LINES TO BE CHANGED (Replacement)	331	-	331	Connected to SD-T	Once SD-T is resolved, no additional action
	TB-VR1	1,068	1,068	-	Line is already executed by another entity. To check as built drawings.	–
	TB-VR2 (Overflow)	551	-	551	Access issue: Narrow road with existing infrastructure.	Topographical survey when works resume
	SD-G	1,290	1,290	-	(Note: already redesigned)	-
	SD-H	206	-	206	Connected to SD-T	Once SD-T is resolved, no additional action
	SD-T	904	-	904	Encroachment as described in section above.	<b>Follow up with Saadnayel municipality to remove encroachment or obtain</b>

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Cadastral Area	Line ID	Total Length of Pending Lines (m)	Line Sections with No Issues (m)	Line Sections with Issues (m)	Updates	Actions / Status
						<b>land donation from adjacent private lot.</b>
	SD-VR1	1,374	1,374	-	(Note: already redesigned)	-
	SD-DE	85	85	-	(Note: already redesigned)	-
	<b>Total Saadnayel &amp; Taalbaya</b>	<b>7,721</b>	<b>2,358</b>	<b>3,904</b>		
Hazerta (Total network 11,843 m)	HZ-LJ	126	-	126	Connected to HZ-L	Once HZ-L is resolved, no additional action
	HZ-LI	495	-	495		
	HZ-LK	72	-	72		
	HZ-LH	132	-	132		
	HZ-LG	268	-	268		
	HZ-LF	360	-	360		
	HZ-LE	287	-	287		
	HZ-LD	132	-	132		
	HZ-LL	186	-	186		
	HZ-LC	276	-	276		
	HZ-LM	228	-	228		
	HZ-LN	72	-	72		
	HZ-LA	306	-	306		
	HZ-LB	334	-	334		
	HZ-LO	108	-	108		
	HZ-LQ	204	-	204		
	HZ-LP	335	-	335		
	HZ-L	1,395	-	1,395	500 m of the line passes through private Convent property. Rerouting design finalized on 17/11/2021.	<b>Design approval by Convent and land donation</b>
	HZ-N	438	193	245	De facto road. Waivers for Plots 604-605-632 obtained based on Hazerta municipality council decision. Letter dated 24/12/2020.	Resolved.

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Cadastral Area	Line ID	Total Length of Pending Lines (m)	Line Sections with No Issues (m)	Line Sections with Issues (m)	Updates	Actions / Status
	HZ-O	1,303	833	470	De facto road. Waivers for plots 866-865-877-872-881-726-725-868-867-1305-870-871 obtained.	Resolved.
	HZ-P	1,405	675	730	Waivers for Plots 48-649-650-80-77-170-268-281-313 obtained.	Resolved.
	HZ-Q	666	-	666	Connected to HZ-P	Resolved; since HZ-P is resolved.
	HZ-Q1	285	-	285		
	HZ-Q2	65	-	65		
	HZ-R	174	-	174		
	HZ-T	382	44	338	De facto road. Waivers for Plots 707-325-706-638 obtained.	Resolved.
	<b>Total Hezzerta</b>	<b>10,034</b>	<b>1,745</b>	<b>8,289</b>		
<b>TOTAL</b>		<b>48,268</b>	<b>6,523</b>	<b>40,286</b>		

## 2.5. Next Steps

- Follow up to resolve remaining access issues based on the actions in Table 3 above, highlighted in bold, mainly encroachment in Saadnayel, Zahle municipal decision for de facto roads, and rerouting at Convent in Zahle.
- In case of contract termination with ASDI and rebidding of remaining works, CESMP would require updating.

## 3. Component 1.2: Expansion of the sewerage network to connect to Anjar WWTP

Total length of sewer lines in Lot 1: 94.51 km and 23.48 km to be rehabilitated

Total length of sewer lines in Lot 2: 128.74 km and 31.16 km to be rehabilitated

Total length of sewer lines in Lot 3: 85.01 km

### 3.1. E&S Instruments

Table 4: List of E&S documents approved by the WB

Document Title	Date of Approval
<a href="#">Environmental and Social Management Framework (ESMF)</a>	12/02/2015
<a href="#">Resettlement Policy Framework (RFP)</a>	12/02/2015
El Marj Wastewater System Land Acquisition Plan <sup>1</sup>	12/05/2020
<a href="#">El Marj Wastewater System –Environmental and Social Management Plan + Addendum 2</a>	07/06/2021

### 3.2. Project Activities

- Lot 1 works: Rebidding documents approved on 06/10/2021. Bid launched on 01/11/2021 until 10/12/2021. Ongoing bid evaluation (4 offers received).
- Lot 2 works: The Supervision Engineer, SU YAPI, was notified to receive the official contract on 16/11/2021. The performance security discussion was concluded with the WB's rejection to any changes in the form's text. Awarded bidder, Danash Contracting and Trading Company, was notified to sign the contract on 13/12/2021. He has 28 days i.e. until 10/01/2022 to submit the performance security and sign the contract agreement.
- Lot 3 works: CDR drafted the expropriation decree and presented it to the Council of Ministers (CoM) on 13/09/2021. The CoM needs to issue a decree that would later be forwarded by CDR to the Expropriation Committee in the Beqaa.
- ESMP for Anjar works: The addendum to ESMP combining the two projects, Anjar WWTP funded by the Italians and Anjar wastewater system funded by the WB, was submitted to MoE on 16/09/2021. No comments were received from MoE. Based on EIA Decree 8633/2012

<sup>1</sup> Not disclosed yet. Land acquisition only under Lot 3 works (Saouiri). Final LAP will be disclosed following design verifications.

(clause 9), the review period of the EIA is 2 months, after which the study can be considered approved and the project can proceed. Therefore, the study is considered approved.

#### 4. Component 1.3: Expansion of the sewerage network to connect to Aitanit WWTP

Total length of sewer lines in Baaloul: 3.2 km

Total length of sewer lines executed in Baaloul: 2.87 km

Total length of sewer lines in Qaraoun: 18.8 km

Total length of sewer lines executed in Qaraoun: 15.22 km

Pumping stations (PS): 6 PS; 1 in Baaloul and 5 in Qaraoun

##### 4.1. E&S Instruments

Table 5: List of E&S documents approved by the WB

Document Title	Date of Approval
<a href="#">Environmental and Social Management Framework (ESMF)</a>	12/02/2015
<a href="#">Resettlement Policy Framework (RFP)</a>	12/02/2015
<a href="#">Aitanit Wastewater System – Land Acquisition Plan (LAP)</a>	06/02/2018
<a href="#">Aitanit Wastewater System – Environmental and Social Management Plan (ESMP)</a>	07/05/2018
<a href="#">Relocation of Pumping Stations Report</a>	15/12/2021
Construction Environmental and Social Management Plan (CESMP)	Revised based on WB comments on 15/10/2021

##### 4.2. Project Activities

The following activities were executed:

- Excavation, bedding, pipe laying and backfilling works were executed for pumping lines
- Topographic surveys of pumping stations and asphaltting locations
- Asphalt works at sewer lines Q3 and Q19 in Qaraoun
- Excavation works at PS1. Construction of a section of the retaining wall surrounding PS1. Installation of chain link fencing at PS1 site for safety of children
- Completion of concrete works at PS2
- Approval of relocation of PS1, PS3 and PS6 based on “Relocation of Pumping Stations Report”





Figure 4: Site photographs of activities executed during the reporting period

The project status is as follows:

- Around 98% of sewer lines in Baaloul. The remaining works are inlet and outlet connections to PS and road reinstatement.
- Around 99% of sewer lines in Qaraoun. The remaining works are inlet and outlet connections to PS and road reinstatement.
- 7.3 % of the PS works were completed in Baaloul and Qaraoun.

Table 6: Status of asphalt paving works (end of December 2021)

Asphalt paving works within Qaraoun Cadastral Limits as of end of December 2021						
Sewer Line	Village	Description of area	Executed Length (lm)	Executed Area (m <sup>2</sup> )	Remaining Length (lm)	Remaining Area (m <sup>2</sup> )
Q1	Qaraoun	Main road + agricultural	1,230	3,645	617	2,468
Q2	Qaraoun	Local road + residential	463	1,585	250	425
<b>Q3</b>	<b>Qaraoun</b>	<b>Main road + residential</b>	<b>1,080</b>	<b>2,060</b>	<b>400</b>	<b>1,800</b>
Q4	Qaraoun	Main road + residential	1,000	2,000	-	-
Q5	Qaraoun	Main road + residential	140	210	-	-
Q6	Qaraoun	Main road + residential	540	1080	-	-
Q7	Qaraoun	Main road + residential	1,000	2,000	-	-
Q8	Qaraoun	Main road + residential	600	900	-	-
Q9	Qaraoun	Main road + residential	85	127	-	-
Q10	Qaraoun	Main road + residential	878	1,317	122	550
Q11	Qaraoun	Main road + residential	140	280	-	-
Q12	Qaraoun	Main road + residential	80	160	-	-
Q15	Qaraoun	Main road + residential	1,002	-	1,002	4,509
Q18	Qaraoun	Residential + residential	383	575	266	1,197
<b>Q19</b>	<b>Qaraoun</b>	<b>Main road + residential</b>	<b>469</b>	<b>2,345</b>	<b>-</b>	<b>-</b>
Q21	Qaraoun	Main road + residential	570	1,140	-	-
QA	Baaloul	Local road	230	460	-	-



QB	Baaloul	Local road	365	730	-	-
QC	Baaloul	Main road	342	684	-	-
<b>Total</b>			<b>10,597</b>	<b>21,298</b>	<b>2,657</b>	<b>10,949</b>
<b>Asphalt paving works within Baaloul Cadastral Limits as of end of December 2021</b>						
<b>Sewer Line</b>	<b>Village</b>	<b>Description of area</b>	<b>Executed Length (lm)</b>	<b>Executed Area (m2)</b>	<b>Remaining Length (lm)</b>	<b>Remaining Area (m<sup>2</sup>)</b>
B3	Baaloul	Local road	125	200	617	2,468
B8	Baaloul	Local road	690	2,070	250	425
BA	Baaloul	Local road	260	520	100	100
BB	Baaloul	Local road	150	450	-	-
A1	Baaloul	Local road	160	240	-	-
<b>Total</b>			<b>1,385</b>	<b>3,480</b>	<b>967</b>	<b>2,993</b>

Based on variation order (VO1), the program of works ended on 26/11/2021 (CDR Decision No. 263 dated 20/5/2021). An extension of time till May 2022 was submitted for WB approval on 30/11/2021. The main reasons for extension of time are:

- Contractor was unable to start the work on PS due to relocation of PS1, PS3 PS6 and potential relocation of PS4 and PS5 as initially requested by LRA. The report on relocation of PS was approved by the WB safeguards team on 15/12/2021 (Table 5 above).
- The Contractor was notified by VO1 (includes extension of time and increase in the capacity of the PS (size of the pit)) on 26/08/2021.

#### 4.3. Environmental and Social Monitoring Plan

CDR PMU had a site visit on 15/11/2021 to:

- Check the implementation of proper safety measures on site. One active site at PS2.
- Visit the new location of PS3 to evaluate any E&S impacts from relocation
- Ensure the dissemination of contact information for GRM at signboard and municipality
- Meet with the mayor of Qaraoun to update on project progress
- Visit the existing PS in Qaraoun that requires rehabilitation to accommodate the additional flow from the network constructed under the project

The sections below describe the applicable E&S measures implemented by the Contractor as per the ESMP and CESMP.

##### 4.3.1. Health and Safety of Workers, Training, Internal GRM

Awareness training sessions for workers (4 to 5 workers) and staff are held on a regular basis (mid of each month) by the Contractor and under the supervision of the Engineer. They cover:

- Reminder of COVID-19 safety measures on site: Daily temperature checks, reporting in case of any symptoms, social distancing, and wearing of masks,
- Reminder of safety rules to be followed on site, especially wearing PPEs (helmets, safety shoes, gloves, etc.)

Any worker that does not follow the above guidelines will be subject to disciplinary action that could lead to suspension from work. At the end of the session, workers can express any complaints. During the reporting period, no COVID-19 cases were reported among workers, and no complaints were raised.



Figure 5: Temperature checks (Left); Awareness session (right)

#### 4.3.2. Traffic Safety and Management

Adequate safety measures were implemented on site. No accidents or complaints were reported.



Figure 6: (Left): Safety measures at PS2. (Right): Chain-link fence installed at PS1 to protect children living nearby

#### 4.3.3. Community GRM

- GRM contact information were posted at the municipalities of Baaloul and Qaraoun.
- The Supervision Engineer and Contractor's contact information were also added to the project's sign board at the entrance of Baaloul and Qaraoun.
- No complaints from the community was raised during the reporting period.



Figure 7: Signboards at the entrance of Baaloul and Qaraoun with GRM contact information

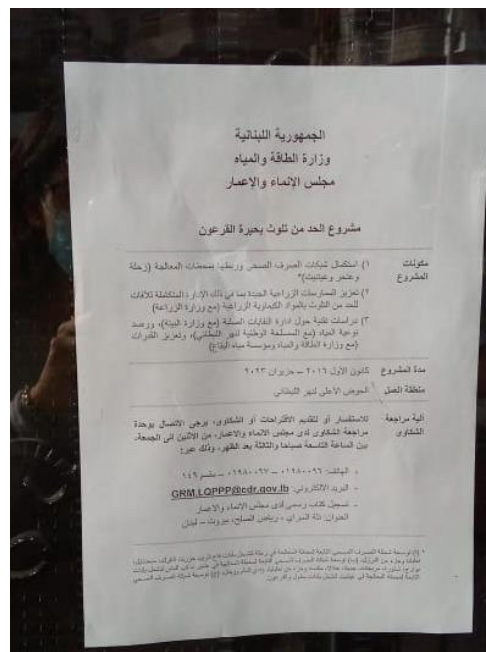


Figure 8: Project description and contact information posted at Qaraoun and Baaloul municipalities



#### 4.3.4. Waste Management Plan

- Volumes of total, reused, and disposed excavation material were reported on a monthly basis. On average, the total excavated material in the reporting period is 4,730 m<sup>3</sup>, out of which 66% was reused on site and 34% (1,615 m<sup>3</sup>) transported out of site. The material was disposed at lot no. 9922 in Qaraoun (Figure 6) based on the municipality's authorization (Letter No. 661/2021 dated 10/20/2021 attached to Appendix 2).
- 90% of the transported material is excavated soil and the rest is scraped asphalt.



Figure 9: Lot No. 9922 in Qaraoun where the municipality authorized disposal of excavated material

#### 4.3.5. Air and Noise Pollution Mitigation Measures

The equipment used during construction works included 2 excavators, 2 jack hammers, 1 bulldozer, 2 bobcats, 2 pickups, 1 truck, 1 asphalt cutter, 2 plate compactors, 2 roller compactors, 2 compressors, 1 JCB and 2 generators. The equipment was regularly maintained, and used only during working hours. There were no registered complaints from the community.

#### 4.4. Next Steps

- Follow up on the designation file for pumping stations:
  - o The file is currently being reviewed by CDR legal department. CDR to send the file to the Ministry of Energy and Water (MoEW) for approval.
  - o The MoEW will forward the file to the Ministry of Finance (MoF) for approval.
  - o Following MoF approval, the Directorate of Land Registration and Cadastre (DLRC) reserves the area to be designated for each plot by indicating it on the plot's property record. The reserved area cannot be utilized by another public administration for other projects.
  - o Designation decrees are prepared by the CDR and processed through a Council of Ministers decision.

## 5. Component 2: Promotion of Good Agricultural Practice, including Integrated Pest Management, to Reduce Agro-Chemical Pollution in The Upper Litani Basin

### 5.1.1. Project Objectives

This component is implemented by FAO. It supports targeted farmers in the Upper Litani Basin to adopt Integrated Pest Management (IPM) practices and Good Agricultural Practices (GAP), which would contribute to reducing the agrochemical pollution and runoff into the Litani River and Lake Qaraoun. The component has four outputs:

- Assessment of current agricultural practices and development of a GAP-IPM program;
- Training of professionals & facilitators in GAP-IPM practices;
- Implementation of the GAP-IPM program at the farm level;
- Evaluation and monitoring for sustainability.

### 5.1.2. Project Activities

During the reporting period, the following activities were achieved:

- Preparation and approval of the Potato booklet – Farmer’s Field Guide for Potato Good Agricultural Practices. The guide will be printed and distributed in collaboration with the Ministry of Agriculture.
- Filming, script writing, and editing of a movie showing the field work done with potato farmers.
- Technical support visits to potato farmers. During the later potato season 2021, 53 farmers received about 596 technical support visits.
- 3 comparative pilot plots were established and harvested. At least 45% increase in production plots with Integrated Crop Management compared to the yield from plots run by farmers.
- 15 to 30% reduction in the quantities of fertilizers compared to the season’s average and up to 60% reduction compared to the baseline average.
- 50% reduction in pesticides on average

## 6. Component 3.1: Technical Studies in Solid Waste Management

### 6.1. Studies for Closure and Rehabilitation of Bar Elias Dumpsite

#### 6.1.1. Project Objectives

- Assess Bar Elias dumpsite and conduct a detailed topographic survey and provide a detailed quantification of the amount of waste, and conduct a material characterization of the waste within the dumpsite;
- Assess potential closure and rehabilitation methods in collaboration with MoE, CDR and PMU, taking into consideration social, environmental and technical factors;

- Conduct the social and environmental studies needed to implement the closure and rehabilitation of the dumpsite. Prepare an Environmental Impact Assessment report and assist the CDR in obtaining the approval of the Ministry of Environment;
- Undertake the study and the technical designs for the closure and rehabilitation of the dumpsite.

#### 6.1.2. Project Deliverables Status

Deliverables	Due date based on work plan	Date of submission
<b>Topographic map</b>	09.12.2020	21.12.2020
<b>Waste characterization report</b>		
Draft preparatory version	09.12.2020	21.12.2020
Including results of waste characterization and biogas investigation	03.02.2021	06.05.2021
<b>Assessment of Closure and Rehabilitation Options Report + Preliminary Design Report</b>	03.02.2021	06.05.2021
<b>Environmental and Social Impact Assessment Study</b>		
Scoping report		Delays
EIA report	03.06.2021	Delays
<b>Draft Bidding Documents</b>	02.09.2021	
<b>Cost estimate report</b>	02.10.2021	
<b>Final Bidding Documents</b>	02.10.2021	
<b>Final Detailed Design Report</b>	02.10.2021	

#### 6.1.3. Work Progress

- Meeting with municipal council to present the study on 03/11/2021.
  - o The Consultant, LibanConsult, presented the rehabilitation alternatives
  - o The municipality agreed with the recommended alternative to rehabilitate the dumpsite in place without any transfer of wastes to another location. Peripheral embankment for slope stability would require expropriation of 18 lots for a total area of 10,128 sqm. The dumpsite is already encroaching 17 of these lots by a total area of around 4,500 sqm. Works will not include bottom lining because the dumpsite has been active for 30 years and it is not possible to excavate all the wastes. Capping of the re-profiled dump will be done.
  - o Land expropriation is a challenge given the lack of funds at government level.
- CDR E&S consultant sent comments on the draft scoping report on 19/11/2021. The comments were well noted by the Consultant, and the scoping report will be revised accordingly.
- Field visit with WB team and Minister of Environment to Bar Elias sorting facility and adjacent dumpsite on 22/11/2021.
- Municipal decision No. 178 was issued on 30/11/2021 and received by CDR on 09/12/2021 approving the proposed rehabilitation method of the dumpsite.

- The Consultant shared the property records for the lots to be expropriated to the municipality so that the latter can contact the affected landowners for a meeting. The number of landowners is 165. Afterwards, a public consultation can be held for the EIA scoping phase.

#### 6.1.4. Project Challenges and Next Steps

- The municipality has not been very responsive and is not taking ownership to advance the project and rehabilitate a dumpsite that was active for 30 years. Lack of capacity is the main reason.
- The municipality did not contact all the landowners yet due to COVID-19 cases at the municipality in the month of December
- The next step is to hold a consultation with the municipality and affected landowners.

### 6.2. Odor Impact Assessment from SWM Facilities and Landfills within the Litani River Upper Basin

#### 6.2.1. Project Objectives

- Assessment of odors from existing Municipal Solid Waste Landfills and Management Facilities within the Upper Litani Basin and neighboring Cazas;
- Assessment of potential odors from potential Municipal Solid Waste Landfills and Management Facilities within the Upper Litani Basin and neighboring Cazas;
- Odor dispersion modeling of odors from both municipal solid waste management facilities and Landfills;
- Provide a model/diagram showing the odor dispersion range per scale with respect to Solid Waste Management Facilities and Solid Waste Landfills;
- Assess the social and environmental impact of odors based on the results of the odor dispersion model with respect to the Solid waste facilities in Baalbeck, Zahle, Bar Elias and Jeb Janine;
- Provide practical recommendations and suggestions on improved odor management for existing and potential solid waste management facilities.

#### 6.2.2. Project Deliverables Status

Deliverables	Due date based on work plan <sup>2</sup>	Date of submission
<b>Data report (literature review data, data collected, readings of conducted odor measurement)</b>	09.06.2021	09.06.2021 <sup>3</sup>
<b>Odor dispersion modelling report</b>	09.11.2021	
<b>Assessment of social and environmental impact</b>	09.11.2021	

<sup>2</sup> An extension of time request is submitted by the Consultant, and still awaits CDR board approval.

<sup>3</sup> The submitted report did not have readings of conducted odor measurements as none were conducted yet. Ongoing discussions between the Consultant and the MoE on the methodology.

<b>Final report</b>	09.12.2021	
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### 6.2.3. Work Progress

- Following several meetings and discussions, MoE approved the Consultant's, JV: Rafik El Khoury – Odournet, methodology on 08/12/2021.

### 6.2.4. Project Challenges and Next Steps

- On 08/12/2021, the Consultant, JV: Rafik El Khoury – Odournet, requested an extension of time of 7 months due to the challenges below:
  - o Absence of odour analysis laboratory in Lebanon, so samples will be sent to a laboratory in France
  - o Limitations due to COVID-19 pandemic
  - o Lengthy discussions with the MoE to agree on the methodology of work
- First deliverable is the analysis of odor measurements and estimates for odor emission rates due on 09/03/2022 based on the revised work plan submitted with the extension of time request. 16 samples will be collected; 4 samples per each of the following locations: landfill, leachate treatment pond, sorting plant, and composting plant in the Bekaa.

## 6.3. SESA Study for the NISWMS

### 6.3.1. Objectives of Study

- To assess the legal, legislative and institutional framework and capacity in relation to the National Integrated Solid Waste Management Strategy (NISWMS);
- To identify the positive and negative social and environmental impacts and the risks associated with the NISWMS;
- To determine the key environmental and social constraints that should be taken into consideration during the development and implementation of the NISWMS;
- To ensure that the National Strategy meets solid waste sector growth and development targets with the least environmental and social impacts;
- To provide adequate environmental, health and social baseline information relevant to the strategy for the purpose of supporting the development of government related policy and plans;
- To identify the economic, environmental and social opportunities associated with the NISWMS implementation and propose a set of actionable recommendations to enhance environmental sustainability and social equity;



- To provide recommendations for optimizing the strategy and ensuring that environmental, social and economic concerns are accounted for and incorporated within the proposed strategy;
- To present opportunities for practical application of the SESA in Lebanon;
- To present applicability of methodological and procedural SEA approach outlined in the SEA decree (8213/2012) Lebanon.

#### 6.3.2. Project Deliverables Status

<b>Deliverables</b>	<b>Due date based on work plan</b>	<b>Date of submission</b>
<b>Inception report</b>	19.01.2022	
<b>Scoping SESA report</b>	19.04.2022	
<b>Draft SESA report</b>	19.07.2022	
<b>Final SESA report</b>	19.09.2022	
<b>Final SESA executive summary</b>	19.09.2022	

#### 6.3.3. Work Progress

- A kick-off meeting was held on 14/10/2021 with the Consultant, JV LDK-ELARD, CDR, MoE and the WB.
- Official contract notification date on 19/11/2021 following CDR internal signature procedures.

#### 6.3.4. Project Challenges and Next Steps

An inception report will be submitted by the Consultant to outline the methodology of work.

### 6.4. SESA Study for the Updated National Water Sector Strategy (NWSS)

#### 6.4.1. Objectives of Study

- Conduct an assessment of the environmental and social impacts of the Updated NWSS 2020 with the necessary stakeholder engagement
- Provide recommendations and high-level policy advice to MoEW for optimizing the Updated NWSS 2020 and mitigating potential adverse environmental and social impacts.

6.4.2. Project Deliverables Status

<b>Deliverables</b>	<b>Due date based on work plan</b>	<b>Date of submission</b>
<b>Project work plan</b>	08.10.2021	11.10.2021
<b>Scoping SESA report</b>	26.11.2021	10.12.2021
<b>Draft SESA report</b>	21.01.2022	
<b>Final SESA report</b>	04.03.2022	

6.4.3. Work Progress

- A kick-off meeting was held between the Consultant, ECODIT, MoEW and CDR
- The consultant submitted a revised work plan on 11/10/2021
- SESA Scoping report was submitted on 10/12/2021 and revised by CDR E&S Consultant. The main comments were on the methodology of the impact assessment. Comments were shared with MoEW and the Consultant on 30/12/2021.

6.4.4. Project Challenges and Next Steps

A meeting is scheduled on 07/01/2022 to discuss the comments on the SESA Scoping Report.

## Appendix 1

### Component 1.1 – Snag List Updates

Snag List Activities	Pending locations as of 07/04/2021	Comment
Manholes to be cleaned	ZH-D1	
Asphalt settlement to be adjusted	ZH-M1(12), SD-C(HC4')	
Adjust asphalt/concrete protection around DI opening cover (The DI Cover shall be fully encased in concrete for off road or in asphalt in paved road)	ZH-T4 (45,32)	
Fully covered manholes to be raised	HZ-KF,TB-C1-(8, HC), ZH-D1, ZH-VA1(6,7,8,9,10,11,12,13), SD-C1(HC1), SD-E1(11>13), SD-A-HC(1,2,3,4), SD-E(13,14,23), ZH-T3(2).	
Adjust cover level in order to match with exist asphalt	ZH-T4(20,55,63)	
Epoxy coating to be painted or adjusted inside manholes	SD-H (12,17), SD-A(3), ZH-D1	
Line HZ-KA at connection with line HZ-K shall be backfilled adequately and rebuild the stone wall	HZ-KA - HZ-K	The line was executed on a track road in an agricultural area. The plan was to create an access road, so the backfilling requires more compaction. The stone retaining wall needs to be rebuilt as it was before (Figure 10).
Damaged stone retaining wall to be reinstated	ZH-O (10)	The stone wall is in an agricultural area (terrace). No safety risks.
Benching to be painted	SD-A (3)	
Pipeline Part between SD-H-15 and SD-H-16 is not installed	SD-H-15 and SD-H-16	
Pipeline part to connect KA1 to existing manhole is not installed	KA1	
Infiltration of water in lines ZH-N, ZH-D, SD-DE to be checked and solved	ZH-N, ZH-D, SD-DE	These lines are not connected to the network, but water in the manholes was

		detected. It is most likely from the manhole cover.
Missing manhole covers (Stolen)	SD-E1(5,6,7,8,9,10), SD-H (26), HZ-D (6), ZH-T1(16), SD-E(7,15,16,17,26,30,31,38,39, 40,44,45,46).	The stolen covers are covered by concrete.
Complete connections at sewer lines and complete manhole finishing works	SD-DE, ZH-D, ZH-M	



Figure 10: HZ-KA to be adequately backfilled and stone retaining wall to be rebuilt

## Appendix 2

### Component 1.3 – Qaraoun Municipality Letter No. 661/2021 dated 10/20/2021

الجمهورية اللبنانية  
وزارة الداخلية والبلديات  
محافظة البقاع  
قضاء البقاع الغربي  
بلدية القرعون

تاريخ: ٢٠٢١/١٠/٢٠

عدد: ٢٠٢١/٦٦١

حضرة السادة شركة داني خوري المحترمين

المراجع : إنشاء خطوط صرف صحي ومحطات ضخ في بلدي القرعون وبعلول (مشروع رقم ٢٠٥٩١)  
بما أنكم تقومون بأعمال حفر خنادق لزوم تمديد قساطل للصرف الصحي وحيث ينتج عنها كميات من  
الأتربة والردميات .

نطلب إليكم اعتماد العقار رقم //٩٩٢٢// منطقة القرعون العقارية ملك بلدية القرعون كمكب لناتج  
الحفريات التي تقومون بها ضمن مشروع رفع الضرر عن بحيرة القرعون وإنشاء خطوط للصرف الصحي  
ومحطات للضخ في بلدي القرعون وبعلول .

حيث نقوم نحن لاحقاً بإدارة ورفع واستعمال ناتج الحفريات حيث تدعو الحاجة .

ولكم جزيل الشكر ،،،

رئيس بلدية القرعون

المهندس يحيى محمد صاهر

