**UNDP Lebanon**

**FINAL MID-TERM REPORT**

External Mid-term Review of the “Towards a Decentralised Waste Management Integrated Response in Lebanon (TaDWIR)” Project

**Funded by the European Union with a total budget of EUR 19,750,000.—**

Commissioned by UNDP Lebanon under DIM implementation modality

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Mid-term report

27th May 2024

*Acknowledgements: Special thanks to the UNDP project team for facilitating the interviews and all Key Informants who participated in the discussions and provided their feedback to the mid-term review team.*

Table 1. Project and evaluation information details

|  |  |
| --- | --- |
|  | **Project/outcome Information** |
| **Project/outcome title** | Towards a Decentralised Waste Management Integrated Response in Lebanon - TaDWIR |
| **Project Number** | 00127018 |
| **Corporate outcome and output** | CPD Outcome 4.3.CPD Output 4.2.1. No. of environmental initiatives implemented in productive sectors and 4.2.2. No of solid waste, water and waste water management initiatives implemented |
| **Country** | Lebanon |
| **Region** | Middle East |
| **Date project document signed** | 2nd February 2022[[1]](#footnote-1) |
| **Project dates** | **Start** | **Planned end** |
| 21st December 2021 | 30th November 2024 |
| **Total committed budget** | EUR 19,750,000.—(US$ 22,270,100.--) |

|  |  |
| --- | --- |
| **Project expenditure at the time of evaluation** | US$ 1,126,637.11 as of 31.12.2023Funding received US$ 3,151,419.--  |
| **Funding source** | European Union (EU) |
| **Implementing party (DIM)** | United Nations Development Programme (UNDP) |
|  | **Evaluation information** |
| **Evaluation type** | Project evaluation |
| **Final/midterm review/ other** | Mid-Term Review |
| **Period under evaluation** | **Start** | **End** |
| 21st December 2021 | 21st March 2024 |
| **Evaluators** | Christian Bugnion de Moreta, Elias Wehbe |
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| **Evaluation dates** | **Start** | **Completion** |
| 16th January 2024 | 31st May 2024 |

**Content**

Acronyms and abbreviations……………………………………………………………………………………...V

[1. Executive Summary 1](#_Toc167737040)

[2. Introduction 6](#_Toc167737041)

[3. Description of the intervention 6](#_Toc167737042)

[4. MTR scope and objectives 8](#_Toc167737043)

[5. Historical review of the solid waste management sector in Lebanon and socio-economic context analysis 9](#_Toc167737044)

[6. Approach and methodology 17](#_Toc167737045)

[Golf Course Entrance (Baabda) (A functioning Composting Unit) 19](#_Toc167737046)

[7. Key evaluation findings 20](#_Toc167737047)

[7.1. Relevance 21](#_Toc167737048)

[7.1.1. Does the project remain aligned with national and donor priorities? 21](#_Toc167737049)

[7.1.2. Was the project strategy and design conducive to reach the expected results? 21](#_Toc167737050)

[7.2. Efficiency 21](#_Toc167737051)

[7.2.1. Is the project bringing value for money? 21](#_Toc167737052)

[7.2.2. Has it been efficiently managed? 22](#_Toc167737053)

[7.2.3. How useful is the M&E system? 23](#_Toc167737054)

[7.3. Effectiveness 24](#_Toc167737055)

[7.3.1. What are the key results of the project, by outcome and by output? 27](#_Toc167737056)

[7.3.2. What outcomes are likely to be achieved? 31](#_Toc167737057)

[7.3.3. To what extent is the project goal achievable? 31](#_Toc167737058)

[7.3.4. What are examples of good practice? 33](#_Toc167737059)

[7.3.5. What capacities have been developed as a result of the project? 33](#_Toc167737060)

[7.3.6. What were the key challenges and shortfalls experienced during project implementation? 34](#_Toc167737061)

[7.3.7. Has the project incorporated the UN programming principles in its implements, particularly Human Rights and Gender Equality, Leave No One Behind, and if so, have they leveraged specific results? 35](#_Toc167737062)

[7.3.8. Have gender responsive activities been undertaken by the project? If so, which ones? 35](#_Toc167737063)

[7.3.9. What has changed as a result of the project? 36](#_Toc167737064)

[7.3.10 To what extent did the project show adaptive management and followed its workplan? 36](#_Toc167737065)

[7.4. Sustainability 36](#_Toc167737066)

[7.4.1. How much did TaDWIR promote national ownership of the project? 37](#_Toc167737067)

[7.4.2. What are the threats and opportunities affecting project sustainability (financial, socio-economic, institutional and environmental) 37](#_Toc167737068)

[7.4.3. How many spin-off initiatives did TaDWIR create? 38](#_Toc167737069)

[8. Conclusions 38](#_Toc167737070)

[9. Recommendations 39](#_Toc167737071)

**Annexes:**

1. ToR
2. Bibliography
3. Agenda and list of interviews
4. Results Framework

**Acronyms and abbreviations**

CO: Country Office

CPD: Country Programme Document

CPW: Cardboard and Paper Waste

DAC : Development Assistance Committee

DoA: Description of the Action

EPR: Extended Producer Responsibility

EU: European Union

FGD: Focus Group Discussion

GW: Green Waste

HCW: Healthcare Waste

HRGE: Human Rights and Gender Equality

KII: Key Informant Interview

MoI: Ministry of Industry

MoPH: Ministry of Public Health

MSC: Most Significant Change

MTR: Mid-Term Review

M&E: Monitoring and Evaluation

OECD: Organisation for Economic Cooperation and Development

PB: Project Board

RBM: Results-Based Management

RDF: Refuse Derived Fuels

RF: Results Framework

ROM: Results-Oriented Monitoring

SDG: Sustainable Development Goals

SW: Slaughterhouse Waste

ToC: Theory of Change

ToR : Terms of Reference

UNDG: United Nations Development Group

UNDP: United Nations Development Programme

UNEG : United Nations Evaluation Group

# Executive Summary

The UNDP has hired a team of two external evaluators to carry out the mid-term review of the Towards a Decentralised Waste Management Integrated Response in Lebanon (TaDWIR) project. The Project is ambitious and is designed to support Lebanon’s waste management systems in a time in which the country is plagued by multiple crises. The specific objectives are to reduce volumes of waste that go to landfills, to improve qualities of waste that go to waste facilities in general and to upgrade national systems for governance and cost coverage of managing municipal solid waste. The project has a total budget of EUR 19,750,000.—equivalent to US$ 22,270,100.— from the EU and a co-funding from the UNDP of US$ 200,000.--. It started on 21st December 2021 and is coming to an end on 30th November 2024. It is already stated in the Description of the Action that the original project was designed for a six-year period and not for 35 months. However, given that the Financing Agreement between the EU and the Lebanese authorities ends by December 2024 at the time of the signing of the project document and the Description of the Action (DoA), UNDP already indicates that a request for extension will be necessary given the compressed time frame for implementation.

This Mid-Term Review (MTR) is carried out as contractually foreseen in the DoA and in the project document. The main audience is UNDP, the EU, the MoE, MoI, MoPH and more generally the Government of Lebanon, the citizenship and private sector as waste management is a long-standing problem in Lebanon that affects all the population. The objective of this MTR is to provide an independent assessment of the project performance focusing on the learning instilled through the implementation of the project by the UNDP. It is essentially a formative review that focuses on learning and potential improvements and recommendations to ensure that the project is on track to reaching its goals and targets during the necessary extension period.

This MTR provides targeted recommendations to enhance the potential results of the project according to the established Results Framework (RF) as well as suggests the need to review the RF to find more relevant and realistic indicators for the results achieved. The criteria for the evaluation are standard evaluation criteria defined by the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD) and the United Nations Evaluation Group (UNEG): relevance, efficiency, effectiveness, and sustainability. The MTR also assessed the cross-cutting normative principles of the United Nations namely regarding the Human Rights Based Approach and the inclusion of Gender Equality as a specific line of inquiry, following the UNEG guidance materials[[2]](#footnote-2). Specifically, the MTR assessed progress towards project outputs and outcomes as specified in the project document and RF. The MTR is formulating recommendations on potential areas of improvement, and recommendations on the timeline for the project implementation to allow the project to achieve its stated goals

The scope of the MTR was the entire implementation period of the TaDWIR since its start on 21st December 2021 (date of the signed agreement between the EU and UNDP) up until then time of the MTR (March 2024). It included both the work undertaken at national level and at sub-national level with the municipalities. The MTR report will be used: a) by UNDP to formulate the implementation strategy over the extended project period while reviewing and adjusting its RF; b) by the EU to support the extension of the timeline for the project implementation and review/discuss the revised RF indicators; c) by the MoE and other line ministries to have an update on the overall progress of TaDWIR; d) by civil society, private sector and Non-profit sector organisations to gain a better understanding of the progress to date; e) to provide accountability to all stakeholders and formulate improvements for the remainder of the project implementation timeline (e.g., the extension phase). In line with the UNDP evaluation policy, the report will be placed in the public domain[[3]](#footnote-3) and UNDP may decide to generate some specific knowledge products or communication materials based on the results of the MTR.

The MTR used a mixed-methods approach to combine the necessary documentary analysis (e.g., desk review of project documentation used to prepare the inception report) and data collection. Data collection was undertaken mainly through Key Informant Interviews (KII), using semi-structured interview techniques and using a questionnaire to ensure consistency and comparability. A total of 26 KII were undertaken with 10 women and 22 men representing all key stakeholders. It was decided that given the security situation the MTR would be carried out remotely, with the KIIs taking place through web-based applications. However, as the MTR team included a national consultant based in Lebanon, some field work to visit project sites and collect observational data and information was also undertaken under the supervision of the UNDP evaluation management. This also provided anecdotal evidence which was used in the analysis of the findings. Triangulation was used extensively to ensure the validity and reliability of the data. Nonetheless, the MTR team picked up on the fact that some of the figures that were discussed and presented during interviews, which are also included in the studies and reports and assessments undertaken by TaDWIR, do not always match and different stakeholders work in fact with different data sets. This is one key problem in Lebanon, access to reliable data, that the TaDWIR attempted to address through the high number of baseline studies, assessments and reports it has generated since the beginning of the project. Nonetheless, data triangulation remains a challenge in Lebanon. Cross-cutting issues such as Gender Equality were covered to the extent possible, taking into consideration that TaDWIR is a GEN1 rated project[[4]](#footnote-4) and that waste management is a traditionally male-dominated sector. Nonetheless, the MTR analysed the extent of gender equality application in the project implementation, but in line with its gender-sensitivity (e.g., ensuring equal opportunities for all) more than being gender-responsive or gender-transformative, something which would be beyond the scope of the project to achieve.

Key Findings

The **key findings** of the MTR are:

1. TaDWIR is an ambitious and complex project that requires a careful, comprehensive and fully resourced management and project team to achieve its ambitious agenda;
2. The problem of solid waste management is endemic in Lebanon and is a recurrent problem for more than ten years that has not been solved given a very highly challenging environment: implementing such as project in Lebanon is much more complex than doing so in other countries given the multiple challenges faced by all players. Because TaDWIR is taking place in such a complex environment, a special attention was placed by the MTR to capture and report on all the challenges affecting project implementation and explaining why, on some aspects, the desired progress may be less timely than desired. A specific section on context analysis is therefore a necessary read to understand the constraints under which TaDWIR is operating;
3. Its timeframe is currently insufficient to achieve the specific objectives, and an extension of the project is necessary (see recommendations);
4. The first part of the project implementation has focused on getting the project off the ground, recruiting (part of) the project staff for the team, identifying the needs and ensuring that the necessary preparatory reports for the baselines, assessments, studies and reports were carried out at the field level before the actual implementation of the pilots could take place;
5. At the national level, some critical studies were undertaken, and some are being discussed in Parliament, chief of which the Cost-Recovery model and the selection of the scenario which is most suited to the Lebanese context;
6. The governance framework is essential to develop a decentralised integrated waste management system, but this requires the active participation of the government stakeholders as well as that of the municipalities and local actors. These have been found to have different interests and priorities, and continuity of the earlier efforts in waste management was not always followed up upon.
7. The financial sustainability of the system is fragile: without a cost-recovery system adopted in which municipalities can generate revenues and a transparent and efficient management of the investments made, the country will remain in a status quo situation in which investments made in infrastructure are not sustainable because they are not accompanied by the necessary transparent and accountable management and maintenance mechanism.
8. KIIs indicate that without TaDWIR the situation would be much worse in Lebanon, so while it may not be able to solve all the problems, it does provide a first and perhaps only chance to focus on the special streams of waste and properly organize them – this has never been done before, to address all special steams as part of a comprehensive system.
9. KIIs also indicate that conditional funding would facilitate progress towards the necessary changes that need to be taken in the country.

Conclusions

TaDWIR is a relevant project that attempts to bring a solution to a recurrent and complex problem that has been plaguing Lebanon for many years: Solid Waste Management (SWM). It is an ambitious project because it covers the different waste streams, working both at the national level with the aim of facilitating good governance structures, while contributing to decentralisation through the support at the sub-national level of various initiatives which are all contributing to the overall project objective. Progress has been slower than expected given the numerous challenges faced: internal challenges, such as recruiting a full project team with adequate staff, external challenges such as brain drain and migration as the increasing number of crises faced by Lebanon in the last years is contributing to more people leaving the country, while the political crisis and the economic crisis have all but depleted the ministries of human and financial resources. In this complex context, the first two years (2022 and 2023) of the 35 months of the project were dedicated to setting up the project structure and ensuring that all of the preparation work was being undertaken, both at national level with the MoE and with the key stakeholders involved in SWM to address the challenges through working both at the policy/legal level, but also in preparing the concrete conditions that would allow to test the pilots that were suggested as a result of the baseline studies, assessments, and reports. These products have been found to be of high quality and would benefit from being publicly accessible. TaDWIR has done a commendable job given the multiple constraints it is facing and in view of the complex environment. During its implementation additional constraints, such as the attacks from Israel in South Lebanon as a result of its war started in Gaza on October 7, 2023, have only made things more difficult and have contributed to further delaying the agenda.

Although the implementation phase is just starting, the quality of the work undertaken to date, from the perspective of the KIIs consulted, is high. Many reports will serve as reference for future investments in SWM, and the consultancy firms chosen to carry out the preliminary studies, assessments, reports are highly skilled and knowledgeable in the subject matter. As a result, while the financial delivery is low since the actual implementation did not yet start, the quality and relevance of the reports produced are high on both these accounts.

UNDP is considered as a reference in the SWM sector, and more recently the World Bank has also become involved in the sector. There is no question that the work undertaken is useful, although the main risk for the project is the financial sustainability of the SWM sector, something that goes beyond the scope and reach of the project, as it requires systemic changes both in the government in regards to decentralization and the key issue of introducing cost-recovery and allowing municipalities to generate revenues to become financially sustainable, and also a change in the historical distrust from the private sector towards government policies which have essentially been felt to be opportunistic and short-term. Previous investments made in SWM for some past projects do not appear to have been sustainable.

TaDWIR operates in a very complex environment and is not able to influence all factors that challenge implementation. But it is able to further contribute to the improvement of the SWM sector if it can receive the necessary extension to complete its specific objectives. The project is work in progress and will only start implementation of concrete pilots on the ground in the second half of 2024, while political decisions must be made at the national level regarding the framework, the national strategy, and the implementation of a cost-recovery model, essential to ensure financial sustainability but politically challenging. While the operational complexities may limit the extent to which all four specific objectives progress, in particular the fourth objective related to the governance of SWM, it remains a sound investment that is able to show the way forward by tackling a large number of concrete problems, provided that the implementation of the pilots is successful. And the key to a successful implementation is to ensure the buy-in, ownership and commitment not only of the municipalities, but also of the stakeholders and private contractors involved in the management and maintenance of the investments made, to avoid repeating the mistakes of the past. And this requires a carefully targeted approach in which the lobbying and confidence building between the different partners needs to be strengthened gradually, something that requires time. Rushing into implementation without having ensured the soft skills to make the pilots a good model for replication would be counterproductive, and sufficient efforts and time should be devoted to ensuring that the proper partnerships have been established for all pilots. If so and if a sound and transparent management system can be put in place, provided no political interference or legal issues arise to derail the efforts, the pilots can serve as a model for upscaling and replication. But the MTR strongly warns against rushing into implementation without securing to the highest level possible the strongest possible partnerships and discussing the management and maintenance systems once the investments and infrastructural works have been completed. If not, TaDWIR runs the risk of ending like other projects undertaken in the past, without proper sustainability to ensure it is a long-term investment for the welfare of the people of the country.

Recommendations

For UNDP:

1. Obtain an extension of four years for the implementation of the full TaDWIR special objectives.
2. Complete the recruitment of the technical staff (full staffing as per project document) or establish clear HR needs for the rest of the project life (considering staff or consultancy support such as for the communications materials), and review the project RF and review the targets including annual targets. Define clearly the yearly progress by stream (special objective) and the order of priority.
3. Review the workplan over the next four years with specific attention to shared buy-in and commitment from stakeholders, including for the management and maintenance contracts and not only for the procurement of infrastructure and equipment;
4. Increase dissemination materials and work both at national and local levels on demonstrative actions that contribute to changing mindsets about waste management
5. Support the ROM mission from the EU (see point 3 hereunder). Successful pilots can be models to be upscaled and replicated, provided they are sustainable.
6. Include the World Bank as member of the Technical Advisory Committee that is foreseen by the project and is currently being created.
7. Make the baselines, assessments and reports publicly available once they have been vetted by the government as they are of high quality and relevance.
8. Include in the yearly reports how the other waste streams not under TaDWIR (glass, plastic, etc.) are being taken care of to provide a comprehensive view of SMW in Lebanon, including efforts outside the remit of TaDWIR (looking at the coherence of the actors in SWM)
9. Plan for the final evaluation and include subject matter expert in the evaluation team.

For the EU:

1. Approve a four-year extension of the project.
2. Ensure conditional funding to the country so that the technical support is embedded on the necessary institutional and legislative changes required to enable the conditions for sustainability. TaDWIR cannot address all the required levels of change, but conditionality has been used by the EU to facilitate policy change and alignment of government policies.
3. Undertake a ROM (results-oriented mission) after two years into the extension phase to review the progress of the pilots and of the governance framework, including the introduction of any cost-recovery measures, ahead of the terminal project evaluation.

# Introduction

The UNDP has hired a team of independent consultants to undertake the Mid-term Review (MTR) of the Project: “Towards a Decentralised Waste Management Integrated Response in Lebanon” hereafter referred to as “TaDWIR”. This MTR has been contractually foreseen in the project document and in the Description of the Action (DoA)[[5]](#footnote-5). This MTR is conducted under the leadership of an international consultant and the support of a national consultant. Given the security situation in the region, it was decided that the Lead consultant would be home-based and remotely carrying out the MTR while the national consultant would provide the necessary on-site support. The objective of this MTR is to provide an independent assessment of the project performance focusing on the learning instilled through the implementation of the project by the UNDP. It is essentially a formative review that focuses on learning and potential improvements and recommendations to ensure that the project is on track to reaching its goals and targets.

This MTR is meant to provide evidence of results, accountability and learning to the European Union, the Project Board (PB), UNDP Management, the Government of Lebanon, the private sector and the non-profit sector. Since the project is still in the early stages of implementation, an extension of the project period is necessary, and the EU and evaluation commissioner are expecting specific recommendations regarding the timeframe for the project extension. This MTR is undertaken in application of the UNEG norms and standards for evaluation, the IEO evaluation guidelines, the UNDG Results-Based Management Handbook, and uses the standard evaluation criteria as defined by the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD) and the United Nations Evaluation Group (UNEG): relevance, efficiency, effectiveness, and sustainability.

Report structure

This MTR report is structured in line with the UNEG template and UNDP requirements. For ease of reading, it follows the recommendations of the report template in the following manner:

The report starts with an executive summary (1) which synthesizes the main findings, conclusions and recommendations, and then presents an introduction (section 2). The nature of the project and its logical framework are described under the Description of the intervention (3), followed by the MTR scope and objectives (4). A historical analysis is included in section 5, while the evaluation approach and methods, including data analysis, are presented under section 6. Findings are contained in section 7. The key evaluation questions identified during the inception stage structure section 7, so the findings are presented by evaluation criterion and by key evaluation question. Section 8 present the conclusions that flow from the findings analysis and section 9 contains the recommendations of the MTR.

The various annexes are attached to this MTR report.

# Description of the intervention

This project was launched on 21st January 2021 and was established for a thirty-five months duration, but it reportedly only started on 21st December 2021. It stated initially that an extension would be necessary to reach the overall project objectives, but the project is limited to 30 November 2024 as the Financing Agreement between the EU and the Lebanese Authorities ends by December 2024. The total project budget is EUR 19,750,000.—funded by the European Union with an additional US$ 200,000.—co-funded by UNDP.

The aim of the project is “to improve the overall environmental and financial sustainability of Lebanon’s waste management system”. The specific objectives are “to reduce volumes of wate that go to landfills, to improve qualities of waste that go to waste-facilities in general and to upgrade national systems for governance and cost coverage of managing municipal solid waste[[6]](#footnote-6)”.

These four specific objectives have been formulated as four distinct outcomes in the Logical Framework/Results Framework as follows:

Table 1. Results Framework p. 41-42 of DoA Annex I

|  |  |  |
| --- | --- | --- |
| **Outcome (specific objective)** | **Indicator** | **Target** |
| 1. *To reduce hazardous waste going to waste facilities, landfills and/or being dumped in environmentally unsound manner (hazardous HCW, e-waste and batteries)*
 | (%) tons of HCW (all types) being treated | 5% (last year) |
| 1. *To improve the operational and financial efficiency of current waste facilities (where applicable) to produce higher value end products from municipal waste and optimize production cost*
 | Improved operational efficiency of MRF facilities | 10% (last year) |
| 1. *To secure recycling of already at-source segregated waste and prevent it from being mixed with municipal or other wastes (CPW, SW and other special waste)*
 | Number of waste streams where recycling is enhanced | 4  |
| 1. *To improve the governance of the waste sector*
 | Cost recovery system designed | 1 (last year) |

To achieve the outcomes above the following eight outputs (or direct results) are main contributors (source: DoA, annex I, p. 42-43):

|  |  |  |
| --- | --- | --- |
| **Output (result)** | **Indicator** | **Target** |
| * 1. Infrastructure capacity and systems in place to accommodate the treatment of 100% of all infectious HCW and 80% of all pharmaceutical and cytotoxic HCW are in place
 | 1.1.a. % of infectious HCW collected and treated in a sound manner1.1.b: % of pharmaceutical and cytotoxic HCW collected and treated in a sound manner | 100% (last year)80% (last year) |
| * 1. Waste collection and treatment of E-waste and batteries is regulated and made available
 | 1.2.a: % of consumers with access to the collection services for e-waste and batteries1.2.b: Implementation of EPR | 1.2.a: 20% (last year)At least 1 EPR (last year) |
| 2.2. 10-20% of mixed municipal waste that are received by targeted MRF facilities are diverted from landfills and dumpsites by modifying and improving the roles of MRF | Amount % (tons/year) of mixed municipal waste in targeted MRF facilities is diverted from landfills and dumpsites in the form of RDF | 10-20% (last year) |
| * 1. MRF operation cost is optimized by reducing at least 20% of energy costs
 | % of energy costs reduced | 20% (last year) |
| * 1. Segregated municipal green waste in two pilot sites are composted separately
 | Amount (tons/year) of municipal green waste and possible other segregated green wastes composted separately in two pilots | N/A |
| 3.1. Collection and recycling of cardboard and paper waste from source is secured | Amount (tons/year) of cardboard and paper waste collected and recycled in Lebanon | N/A |
| 3.2. Collection and treatment of slaughterhouse waste is secured (if possible) | % of all slaughterhouse waste separately collected and treated | 70% (last year) |
| * 1. A national framework on governance and a national guideline on cost recovery for municipal solid waste management have been established
 | % of municipalities that adopt and implement the national guidelines on cost coverage for MSW | N/A |

In total the intervention has 8 outputs that contribute to the four outcomes and ten indicators at the output level, with no identified target for outputs 2.3, 3.1 and 4.1. At the outcome level, there are four indicators each one measuring one outcome. The quality and relevance of these indicators is discussed under the efficiency criterion in the body of the report. The project is ambitious and takes place in a very challenging and complex environment. To understand the challenges and constraints faced by the project, a comprehensive review of the SWM sector was undertaken by the national consultant. It is included in this section of the report as a stand-alone piece which needs to be read to understand the current operating context and the fact that, despite an ambitious agenda and a good technical approach towards problem-solving, the issues that TaDWIR is tackling stem from a historical lack of interest, commitment, resources and capacities which spread from a long period of neglect regarding solid waste management.

# MTR scope and objectives

The scope of the MTR was the entire implementation period of the TaDWIR since its start on 21st December 2021 (date of the signed agreement between the EU and UNDP) up until then time of the MTR (March 2024). It included both the work undertaken at national level and at sub-national level with the municipalities. The MTR report will be used: a) by UNDP to formulate the implementation strategy over the extended project period while reviewing and adjusting its RF; b) by the EU to support the extension of the timeline for the project implementation and review/discuss the revised RF indicators; c) by the MoE and other line ministries to have an update on the overall progress of TaDWIR; d) by civil society, private sector and Non-profit sector organisations to gain a better understanding of the progress to date; e) to provide accountability to all stakeholders and formulate improvements for the remainder of the project implementation timeline (e.g., the extension phase).

The objective of this MTR is to provide an independent assessment of the project performance focusing on the learning instilled through the implementation of the project by the UNDP. It is essentially a formative review that focuses on learning and potential improvements and recommendations to ensure that the project is on track to reaching its goals and targets during the necessary extension period.

# Historical review of the solid waste management sector in Lebanon and socio-economic context analysis

**Context analysis of the waste management sector 2015-2024**

The waste management crisis is the oldest among the many crises that have affected Lebanon in the past ten years, among which the socio-economic, political, financial, COVID-19 crisis, and the Beirut port explosion. Youth may only remember the last crisis, but in fact the waste management crisis started to be problematic during the civil war. Dumping wastes was always adopted in Lebanon, and before the war the waste of Beirut was dumped in Qarantina close to Beirut port. Once the war started and the Lebanese capital was divided into west and east, in the eastern part, Bourj Hammoud was the waste cemetery of east Beirut while the western Beirut rubbish was dumped into the shores of Beirut facing Normandy hotel.

In 1994, Normandy dumpsite was shut down, and plans for its rehabilitation were being developed. Bourj Hammoud took over the load from Normandy, and in 1997, public demonstrations to close occurred, resulting in a waste crisis in which was piled up in the streets, leading to the introduction of a waste emergency plan that went on until 2015..

Only short terms solutions seem to be adopted in Lebanon; thus, a new landfill was opened in Naameh, 18 km south of Beirut[[7]](#footnote-7), in order to receive 2 million tons of waste, but in fact it received 15 million tons of garbage in 18 years[[8]](#footnote-8), in 2015 when it was closed after years of protests by residents.

In more recent history, after the closure of al Naameh landfill in 2015 which had reached its full capacity, the waste management crisis exploded and received extensive media coverage. In fact, Sukleen, the waste-collection company, had no alternative waste disposal plan and no place to put the tons of garbage it collected, so it was forced to stop operations[[9]](#footnote-9). In the summer of 2015, some 20,000 tons of rubbish flooded the streets of Beirut[[10]](#footnote-10) that was drowning in rotten waste that was piled in almost all streets. This situation led to significant discontent among the citizens. The residents marched on parliament, expressing their concerns for the lack of action, which they believed could lead to severe consequence for the country.

The recurrence of the crisis is not a simple coincidence, it has a root cause. The origin of the problem can be traced back to the absence of determined efforts by national authorities to appropriately manage the waste sector in a country that relied mostly on dumping the wastes of Beirut. While in other regions the “poor” municipalities had to manage this vital sector on their own and find local solutions. These were mostly working with illegal dumping sites or even burning huge amounts of garbage and black smoke was something habitual and typical in several regions. Neither solution was sustainable, each landfill had its own limits and capacities, and none of residents were willing accept breathing toxic fumes for a prolonged period. Unfortunately, despite this well-known fact, there hasn’t yet been an attempt to set up a sustainable management system.

Regrettably, this apathy was shown not only in the sector of waste management, but also in several other sectors and public sector services such as electricity and water, Lebanese were known to pay double fees for electricity and double fees for water since they need the services of public sector and those of the private one due to a shortage in government services and weak power generation as well as shortage in water supplied by the public sector[[11]](#footnote-11).

That said, it is worth noting that The Waste Management Coalition found that Lebanon spends US$154.5 dollars to manage every ton of solid waste. By comparison, Algeria, Jordan, and Syria spend $7.22, $22.8, and $21.55, respectively[[12]](#footnote-12). On average, Lebanon spends around $420 million per year on solid waste management, while countries like Jordan and Tunisia that are clearly larger spend between $48 and $54 million per year. And this, without counting environmental pollution costs. In fact, A 2004 World Bank study estimated the cost of environmental pollution from illegal dumping and waste burning at [around $10 million each year](http://www.moe.gov.lb/getattachment/%D8%A7%D9%84%D8%AA%D9%88%D8%AC%D9%8A%D9%87-%D8%A7%D9%84%D8%A8%D9%8A%D9%8A%D9%8A/%D9%85%D8%B9%D9%84%D9%88%D9%85%D8%A7%D8%AA-%D9%88%D9%86%D8%B5%D8%A7%D9%8A%D8%AD-%D8%A8%D9%8A%D9%8A%D9%8A%D8%A9/%D9%82%D8%B7%D8%A7%D8%B9-%D8%A7%D9%84%D9%86%D9%81%D8%A7%D9%8A%D8%A7%D8%AA-%D8%A7%D9%84%D9%85%D9%86%D8%B2%D9%84%D9%8A%D8%A9-%D8%A7%D9%84%D8%B5%D9%84%D8%A8%D8%A9-%D9%81%D9%8A-%D9%84%D8%A8%D9%86%D8%A7%D9%86/State.pdf.aspx?lang=ar-LB), and growing. Another study in 2014 by two waste management experts showed that the [cost of environmental degradation](https://wmclebanon.org/wp-content/uploads/2019/06/GIZ-Lebanon-Cost-of-environmental-degradation-due-to-solid-waste-management-practices-in-Beirut-and-Mount-Lebanon-2014.pdf) from inappropriate solid waste management is $66.5 million per year, estimated at 0.2 % of the 2012 national GDP. The study showed that improved waste management practices, such as recycling and composting, could reduce the cost by $74 million per year. At the time of the study, about 85 percent of solid waste goes to open dumps or landfills. But according to American University of Beirut (AUB) researchers, only [10 to 12 percent](https://aub.edu.lb/units/natureconservation/gallery/Documents/guide_to_municipal_solid_waste_management.pdf) of Lebanon’s waste cannot be composted or recycled[[13]](#footnote-13).

The environmental degradation study did not measure the costs associated with the public health impacts of pollution generated by Lebanon’s current waste management practices. It is very difficult to attribute a specific health issue to one type of pollution since there are many types related to industry, agriculture, electricity production and transportation. But in 2017, Human Rights Watch [investigated the health problems](https://www.hrw.org/report/2017/12/01/if-youre-inhaling-your-death/health-risks-burning-waste-lebanon) from increasing open waste burning as a consequence of the lack of effective waste management strategies. Residents of areas where waste was being dumped and burned reported health problems including chronic obstructive pulmonary disease, coughing, throat irritation, skin conditions, and asthma. Air pollution from open waste burning has been linked to heart disease and emphysema and can expose people to carcinogenic compounds.[[14]](#footnote-14)

Given this, it is not surprising to find opposition to the opening of new landfills in other regions (as happened in 2015), or to transporting the waste of Beirut to other regions (such as when the government wanted to dispose the waste of Beirut in the landfill of Srar in Akkar). This project was blocked by protests from Akkar and the residents in every village were refusing to host a landfill for the waste of other cities[[15]](#footnote-15).

Lebanon is, unfortunately, a nation dominated by sectarian politics and a confessional parliamentary system. This makes consensus difficult to reach on even the most basic matters. Its public services are crumbling[[16]](#footnote-16) In a list of 180 countries, the 2023 Corruption Perception Index, produced by the NGO Transparency International, ranked Lebanon as the 149 out of 180 countries – in other words, there are only 31 countries where corruption is worse[[17]](#footnote-17). Unsurprisingly, successive iterations of Lebanon’s government have failed to provide a long-term solution to the country’s waste-management crisis. Measures such as an effective recycling program that limits the amount of refuse that can be dumped have barely even been discussed.

The 2018 waste law delegated the Environment Ministry to develop a national waste management strategy by March 2019. This waste management law would pave the way to reduce market concentration and recover as much waste as possible through recycling and composting, boosting not just the local economy but the country’s environmental wellbeing. It would also create a **waste management regulation authority**, whose members would be based on the recommendations of the Minister of Environment. The opening of new regulated landfill sites has been announced and, the use of incinerators was allowed by the law.

Plans for the construction of these facilities, which has been suspended until the following year, have been met, with the usual public concern. The fact is that most of Lebanon’s waste, which is not sorted or processed in any way, is not suitable for burning and could create serious health hazards if it were to be handled inadequately.

Despite the fact that this law also banned the open dumping and the burning of waste, more than 900 illegal landfills continued to operate in Lebanon, and the burning of rubbish remained common practice for private individuals and some municipalities. The resulting fumes are highly toxic, contain a range of carcinogens and have been shown to increase the incidence of respiratory problems in those who live nearby.[[18]](#footnote-18)

Beirut has not fully addressed its waste issues either. The parliament decided to widen landfills in the districts of Bourj Hammoud and Jdeideh, which dealt with nearly half of the waste produced by the capital and the Mount Lebanon area. However, it was expected that both of those sites would [reach capacity](https://www.thenationalnews.com/world/mena/lebanon-s-municipal-fund-runs-over-2-billion-deficit-as-waste-expenses-multiply-1.778968) by August 2019. Practically, most of the solution were short terms solutions relying on widening landfills instead of reducing the waste reaching the landfills.

In October 2019, when widespread protests began in Lebanon, and a historical, economic, political, and financial crisis took place, waste management file was not at the top of the priorities list of Lebanese streets. In addition, the declaration of the COVID-19 pandemic on 15th March 2020 by the World Health Organization was another priority for Lebanese society.

However, by mid-2020 the strategy was not yet adopted and was awaiting a [Strategic Environmental Assessment](http://www.cdr.gov.lb/procurement_docs/685L.pdf) to analyze the environmental effects of the solid waste strategy and to integrate environmental considerations into high-level decision-making. The Final Draft National Integrated Solid Waste Management Strategy of Lebanon was published on 25 February 2024.

During summer of 2020, more precisely on 4th August 2020 at 6:08 the Beirut port exploded killing not less than 220 people and a huge destruction.

Beirut’s port explosion that has demolished large parts of the city, has also put additional stresses on Lebanon’s already weak ability to manage its waste.

The rubble and demolition debris alone massively increased the daily volume of generated waste. Additionally, the blast strictly damaged two key sorting, recycling, and composting facilities in Karantina and Bourj Hammoud, as well as waste collection vehicles. A World Bank Group assessment evaluated the blast’s damage to the environment sector, including the waste management infrastructure in Beirut, at between US$20 and $25 million.
Meanwhile, and at the worst possible time, the Bourj Hammoud/Jdeideh Landfill – one of two principal landfills servicing Beirut’s waste – was scheduled to close in September 2020 after reaching its full capacity.

Several small hopeful environmental/waste management initiatives took place in last three years, such as “Drive-through” in which Beirut motorists pull up to a drive-through counter -- not for fast-food, but to exchange empty bottles and cardboard for cash, a novelty in a country long plagued by garbage crises.

The costs of inaction on solid waste management are high. Lebanon’s authorities should build an integrated waste management system that stresses on waste reduction and material recovery and decreases Lebanon’s reliance on landfills. This can be achieved through legislations and economic policies that decrease the import of materials that end up in landfills as well as using financial, legal, and education tools to reduce the use of packaging, materials that are harmful to the environment, and single-use products in addition to encouraging recycling industries and investing in research for the valorization of non-recyclable waste and innovative ideas for the reuse of these materials. The TaDWIR project is a cornerstone in the search for a durable solution to the unsolved problem of solid waste management in the country.

 source: author’s photograph

**Context analysis of the socio-economic, financial, security and political situation of Lebanon 2019-2024**

1. Political timeline – 3 changes since the end of 2019
* Protests of 17 October 2019: Prime Minister (PM) Saad Eldine Hariri announces his resignation in October 2020. Remained as acting PM until **21 January 2020**
* 21 January 2020 until 10 September 2021: PM Dr. Hassan Diab, resigned 6 days after the Beirut port blast in August but remained until **10 September 2021**
* 10 September 2021 to **present day**: PM Najib Mikati, with a care taking mandate since May 2022

1. Socio-economic and financial country situation

Lebanon is wrestling with a deep economic crisis after piling up debt by successive governments following the 1975-1990 civil war[[19]](#footnote-19). For years, Lebanese have used dollars and Lebanese Lira interchangeably and they were proud of having strong banking sector, which allowed for banking secrecy and attracted foreign depositors[[20]](#footnote-20). Unfortunately, Lebanon that was known for years as Switzerland of the Middle East has faced challenges due to mismanagement.

As the dollars dried out from over borrowing, the local currency started to slowly sink for the first time since the central bank, the Banque du Liban, and the government fixed it to the dollar in 1997 at the rate of 1,507.5 Lebanese Lira. The Devaluation of the Lebanese lira started in fact during September 2019 but later, the devaluation was accentuated after the protests of October 2019.[[21]](#footnote-21)

When banks reopened on November 1, 2019, they introduced capital controls and banned transfers outside Lebanon. These measures were, and remain, illegal because Parliament did not approve them[[22]](#footnote-22). Banks no longer had enough dollars to pay depositors queuing outside, so they shut their doors again. The government also defaulted on its foreign debt as well.[[23]](#footnote-23)

People with accounts in dollars can only withdraw a fraction of their money. If they close their account, banks issue them a check that they could use at other Lebanese banks, which also implemented capital controls. Depositors with accounts in Lebanese pounds can withdraw most of their cash, but it is worth less than it was before. [[24]](#footnote-24)

During this period several values of Lebanese Lira existed on the market, there was an official value by the Central banks that remained on 1507.5 Lira for 1 US Dollar, but the biggest exchange market was following the street market price. This value reached 11,000 in March 2020 when the Lockdown due to COVID19 started and unfortunately the touristic sector, one of the most important for the country, was highly impacted, several hotels and restaurants have completely closed any many Lebanese found themselves without any financial resources.

For instance, in 2018, pre-crisis, the tourism sector's economic contribution was estimated at $10.4 billion or 19.1 percent of gross domestic product, the second highest ratio in the Middle East. According to numbers published by Rafic Hariri International Airport, the number of passengers arriving in May and June 2021 (387,879) was far lower than the number of arrivals during the same period in 2019 (773,432), before COVID-19 and the economic crisis took hold[[25]](#footnote-25).

Compounding problems, an explosion in August 2020 at Beirut port killed 215 people and caused billions of dollars of damage. The currency continued to collapse, sliding from 1,500 to the dollar before the crisis, to a street rate of about 23,000 in late January 2022, after hitting 34,000 earlier in the month[[26]](#footnote-26). The US dollar reached 90,000 Lira in 1st March 2023 for the first time (almost the current value) fluctuated for almost 10 days between 80,000 and 90,000 before escalating drastically to reach its highest rate of 142,000 Lira on 21st of May 2023, and then the Lebanese Lira started to retake some of its value and the fluctuation started to be with light amplitude starting from July 2023 and the price of US Dollar is around 90,000 Lira.

The Lebanese lira has lost more than 90% of its value, and the monthly minimum salary has thrown down from the equivalent of $450 (before the crisis) to $24 in July 2022 as prices have ascended as a consequence of several global and local events.

Thus, it would cost government employees more to come to work than to simply stay at home, in addition, Russia’s war on Ukraine has put upward pressure on fuel prices worldwide, and it has hit Lebanon even harder. As a consequence, the cost of transportation has greatly increased. This, combined with the devaluation of the lira has led government employees to stay home, immobilizing the entire public sector[[27]](#footnote-27).

According to United Nations Economic and Social Commission for Western Asia, 82% of Lebanese residents suffer from multidimensional poverty, leaving those people with very low purchasing power.

Knowing this, the government tried to find solutions by relying on subsidies and contributions; The majority of these contributions took place between August 2021, when subsidies were effectively lifted, and April 2022, ahead of the elections season. These contributions targeted workers in public administrations and aimed to mitigate their diminished purchasing powers[[28]](#footnote-28).

Despite these subsidies, the collapse of salary values has driven many skilled servants out of the public sector. But they aren’t being replaced, a fact that was causing of course, delays in some works. Something that used to take three days has started taking one or two weeks[[29]](#footnote-29). Even the employees who make it to the office don’t stay until the end of the shift because they have to pick up their kids from school—they can’t afford to pay for school transportation to take the kids home. Furthermore, amid the drop in the value of their salaries, some public sector employees are taking unpaid leaves of absence from their ministries, in which they look for other employment. The younger employees in particular often find it easier to emigrate than their older colleagues causing a great loss to the public administration. For example, compared to the roughly 1,100 positions that the government’s National Water Strategy estimated were needed for the establishment, the establishment consisted of just 300 employees in November 2022[[30]](#footnote-30) KII during interviews indicated to the MTR that the MoE had lost more than 50% of its staff since the 2019 crisis.

Not only did the public sector suffer. At the American University of Beirut (AUB), 1,500 faculty and staff had left by June 2021. Some were medical staff at AUB’s hospital, others used the cultural capital bestowed upon their CVs by AUB experience, and the prestigious degrees and experience acquired while working there, to find work abroad. Private contractors interviewed during the MTR also indicated the need to internationalize operations in order to continue business activity which in Lebanon is thwarted by the control measures and the spiraling currency devaluation, making it a very difficult environment for business.

As a result of the crises, youth migration rate has been increasing with a survey in 2020 showing that 77% of Lebanese youth aged between 18 and 24 wished to emigrate[[31]](#footnote-31). Another December 2020 assessment, the World Bank warned that [brain drain](https://www.worldbank.org/en/news/press-release/2020/11/30/lebanon-is-in-a-deliberate-depression-with-unprecedented-consequences-for-its-human-capital-stability-and-prosperity) was becoming an “increasingly desperate option” in Lebanon, as the economic crisis ranks in possibly the [top three](https://www.worldbank.org/en/news/press-release/2021/05/01/lebanon-sinking-into-one-of-the-most-severe-global-crises-episodes) most severe crises in the world since the mid-19th century. According to some [estimates](https://www.thenationalnews.com/mena/brain-drain-could-create-healthcare-wasteland-in-lebanon-doctors-warn-1.1161619), 20 percent of Lebanese doctors have left, or are planning to leave, since the economic crisis gripped the nation in 2019, and hundreds of pharmacies have shut down, rendering the pharmacists unemployed. A steady exodus of health care staff such as nurses is ongoing, and hundreds have been lured by the Gulf countries[[32]](#footnote-32). Half a dozen engineers are [reportedly](https://www.upi.com/Top_News/World-News/2020/12/22/Lebanons-brain-drain-Doctors-nurses-engineers-leaving-amid-crisis/9091608581590/) seeking recommendation letters from their bosses daily to apply for jobs outside the country. Experts say the current spurt in brain drain will have a lasting impact on a country grappling with myriad crises and Permanent damage to human capital would be very hard to recover[[33]](#footnote-33).

According to Information International, between 2018 and 2021, 195,433 Lebanese have emigrated. Since then, the trend has been on a sharp increase, interrupted by a short break in 2020. Between 2019 and 2020, the number of emigrants dropped by 48,085, only to increase again by 60,056 in 2021. In 2021 alone, 77,777 Lebanese, around 40% of the total emigrants between 2018 and 2021, departed. As above-mentioned, the severe economic meltdown, followed by a prolonged political stalemate, staged one of the largest mass exoduses of the country[[34]](#footnote-34).

Another report from 2021 insists that 230,000 Lebanese left Lebanon between July and August of that year. According to a report published in 2022 by the Middle East Monitor, the number of Lebanese citizens who migrated from the country in 2021 increased by a 346% compared to the previous year. The report based its estimates on a study conducted by Information International that found that as many as 79,134 Lebanese citizens left the country in 2021 compared with just 17,721 in 2020. Information International reportedly based the study on official figures from the Directorate of General Security in Beirut. A report from Beirut today insisted that migration from Lebanon jumped 446% between 2020 and 2021. According to the report, the number of migrants leaving Lebanon increased 4.5 times between 2020 and 2021, with 215,653 travelers leaving the country between 2017 and 2021. Lebanon is currently the most remittance-dependent country in the world, according to a 2022 report published by Mercy Corps' Crisis and Analytics Hub[[35]](#footnote-35).

The latest indicators showed inflation figures reaching 251.5 percent in July 2023 on an annual basis, as the term of Banque du Liban Governor Riad Salameh ended without appointing a successor. Inflation continues on its wild upward trajectory as the country’s currency has seen its purchasing value fall dramatically since it lost 90 percent of its value in February 2023.

The increase in the cost of living has led to higher costs of housing, water, electricity, gas and other fuels, as well as higher prices for food, non-alcoholic beverages and transportation, the Central Statistics Consumer Price Index (CPI) showed[[36]](#footnote-36). Food prices, which account for 20 percent of the consumer price index, rose by 279 percent, while housing, water, electricity, gas and other fuels – weighing 28 percent – rose by 234 percent. Health costs, which account for about 8 percent of the index, rose 257 percent. Transport costs, which weigh 13 percent, jumped 222 percent. The CPI rose by almost 6.8 percent from June 2023 to August 2023 as a result of the increase in medical and hospital services. Cumulative inflation since September 2019, on the eve of the start of the crisis to date, has reached about 4,900 percent at its peak[[37]](#footnote-37).

1. Security situation: impact of ongoing war in Gaza on Lebanon

It seems that Lebanon is a magnet for endless crises. Prior to October 2023, economic growth was projected -- for the first time since 2018 -- to slightly expand in 2023," by 0.2 percent as said be World Bank, this growth was attributed the positive pre-war expectations mainly to summer tourism and remittances from the large Lebanese diaspora[[38]](#footnote-38). Unfortunately, Lebanon's southern border has seen regular exchanges of fire, mainly between the Israeli army and Hamas ally Hezbollah, since the Gaza conflict erupted on October 7 and engendered high-risk security situation[[39]](#footnote-39).

The situation in Lebanon remains volatile and unpredictable due to violent clashes along the border with Israel, including daily rocket and missile fire as well as air strikes. On January 2, 2024, explosions caused by suspected drone strikes occurred in the Dahiyeh district of Beirut, resulting in casualties. The attacks appear to be related to the ongoing conflict in the region and could lead to an escalation of hostilities in Lebanon and people’s life safety and security could be at risk[[40]](#footnote-40). At the time of the writing of this report the conflict has indeed escalated in South Lebanon with direct confrontations taking place and United Nations members (UNFIL) injured by explosions (31 March 2024). It does not seem that the security situation is likely to improve over the short term, also affecting plans to cover concrete interventions in the South.

In addition to the security issues, the impact of the conflict had reversed a slight recovery for Lebanon, which has battled a deep economic crisis for years. More than half of travel reservations to Lebanon have been cancelled for winter holidays, according to the World Bank who has warned that "tourism cannot, on its own, serve as the basis for an economic recovery."[[41]](#footnote-41)

During October 2023, the Lebanese Civil Aviation authority recorded more departures than arrivals and a 15 percent reduction in the inflow of passengers compared with October 2022. Additionally, hotel occupancy rates in Lebanon plummeted to below 10 per cent due to the premature departures of visitors and trip cancellations during the same period.

According to a UNDP report, when compared with the first week of October 2023, nationwide restaurant activity witnessed an up to 80 percent reduction in business during weekdays and a 30-50 percent decrease at the weekends after the start of the conflict[[42]](#footnote-42) .

# Approach and methodology

The MTR follows the United Nations Evaluation Group (UNEG) evaluation norms and standards (2017 revision), and the UNDP “PME Handbook” established by the UNDP in 2009 and revised in 2011, the UNDP Outcome-level evaluation, a companion guide to the Handbook on Planning, Monitoring and evaluation for development results for programme units and evaluators, December 2011, the UNDG, Results-Based Management Handbook, Harmonizing RBM concepts and approaches for improved development results at country level, October 2011, as well as the updated UNDP evaluation guidelines of 2021[[43]](#footnote-43). It is carried out under the provisions of the revised UNDP Evaluation Policy of 2019[[44]](#footnote-44). The final evaluation also adheres to and is a signatory of the UNEG ethical guidelines for evaluation and the UNEG Code of Conduct both of 2008. The approach follows a “utilization-focused evaluation” approach that is described by M. Q. Patton in his book of the same name[[45]](#footnote-45) that continues to be a good practice reference material for the conduct of evaluations. It applies the UNEG HRGE guidance materials from 2011 and 2014 regarding Human-Rights and Gender Equality principles in evaluation. As discussed with the evaluation commissioner, UNDP CO Lebanon, the evaluation will not use the “Guidance for conducting Midterm Review for UNDP supported, GEF-financed projects” that are mentioned in the terms of reference because 1) the project is funded by the EU and not the GEF and, 2) because after discussion with UNDP the format suggested by the IEO 2021 guidelines is better suited to the MTR exercise.

The criteria for undertaking the assessment are not specifically mentioned in the ToR but are the standard criteria used for project evaluations: relevance, efficiency, effectiveness, and sustainability. Originally the definitions of each of the evaluation criteria had been given by the OECD/DAC in its glossary of key terms in evaluation and results-based management in 2002. In 2019 the evaluation criteria were revised and updated as follows[[46]](#footnote-46) :

“**Relevance:** The extent to which the intervention objectives and design respond to beneficiaries’, global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change?

Relevance answers the question: Is the intervention doing the right things?

**Efﬁciency**: The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. Note: “Economic” is the conversion of inputs (funds, expertise, natural resources, time, etc.) into outputs, outcomes, and impacts, in the most cost-effective way possible, as compared to feasible alternatives in the context. “Timely” delivery is within the intended timeframe, or a timeframe reasonably adjusted to the demands of the evolving context. This may include assessing operational efficiency (how well the intervention was managed).

Efficiency answers the question: how well are resources being used?

**Effectiveness**: The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups. Note: Analysis of effectiveness involves taking account of the relative importance of the objectives or results.

Effectiveness answers the question: Is the intervention achieving its objectives?

**Sustainability:** The extent to which the net benefits of the intervention continue, or are likely to continue.

Sustainability answers the question: will the benefits last?”

**Tools and methodology**

The evaluation used a combination of methods (mixed methods) that included:

1. Desk review of available documentation, leading to the preparation of the inception report;
2. Individual Key Informant Interviews (KII) with key project stakeholders: Project Board members, UNDP management and project staff, Governmental counterparts directly involved in the initiatives/innovative measures, other private sector actors and NGO partners. A total of 26 KII was done with 32 persons in total, of which 10 women and 22 men. The full list of interviewees is included as annex. The evaluation used a questionnaire guide to ensure comparability and consistency amongst the different respondents interviewed. The KII included open-ended and closed questions, and used a five-point scale rating to obtain respondents’ feedback regarding their perception about the project. All primary data collected is coded to ensure the confidentiality of the respondents in line with UNEG evaluation standards.
3. Review and analysis of the project Results Framework/Logical framework, to identify the validity of the targets set at output (direct results) and outcome (specific objective) levels and propose, if necessary, tangible and practical alternatives to capture the project achievements and review and suggest potential changes. A stand-alone submission was given to UNDP with suggestions regarding the amendments to the Results Framework, particularly as it relates to the indicators to appraise the final targets.
4. Field visits were carried out by the national consultant to observe some of the interventions as per the following details

Table 2: list of locations visited by the national consultant

|  |  |  |
| --- | --- | --- |
| **Date** | **Location** | **Purpose** |
| 20 March 2024 | Karantina Governmental Hospital  | Check on the site that was selected in coordination with MoPH, in order to assess its accessibility, location and the treatment methodology that will be used. The location showed to be easily accessible and close to most of hospitals in Beirut and mount Lebanon, a fact that reduce the transportation cost. Compared to the HCW treatment unit in another governmental hospital (Rafic Hariri Hospital) where incineration is used, an enhancement will be done in Karantina hospital HCW treatment unit. The Microwave treatment technology will be adopted, and it was agreed on in coordination with the MoPH, and this technology has better acceptance by public. |
| 20 March 2024 | Golf Course Entrance (Baabda) (A functioning Composting Unit)  | This visit was conducted as well to check on the suitability of the site for composting purposes. In fact, this site is already a functioning green waste composting facility in which are composted the green waste generated in Ghobayre and other neighbouring municipalities of great Beirut. Despite the fact that the location is surrounded by residences and buildings, the location did not face any problem or acceptance issues since it uses almost solely green waste (with small quantities of horse manure) and consequently is not producing bad smell to the neighbour. Besides during the discussion with the mayor and the workers, the composting unit appeared to be selling the compost for people or using the production in the gardens of the city, this shows that the composting unit, most probably, won’t suffer sustainability issues.  |
| 22 March 2024 | Ain el Rehaneh (Mount Lebanon) (Potential site, ranked third in the selection process)  | Check on the “Non-Selected Site” Even though that this site is not among the two selected site and it is selected to be a backup in case the security issues adverse the implementation of the composting facility in Aabassieh, the municipality of Ain el Rehaneh and the union of municipalities of Keserwan showed high interest in hosting the composting facility. The site is far from adjacent residences and showed very low risk of opposing the establishment of such facility. The site is accessible and in a central position on Keserwan district to facilitate the receiving of green waste that is generated in large quantities in this region.  |
| Comments: | Both composting sites are willing to compost green waste without being able to incorporate normal municipal waste (household waste);Site in Ghobayre is too close to residences, and site in Ain el rehaneh because the municipal wastes are not sorted and segregated. So far, the composting units are not established but a specialized company is Developing detailed designs of the facilities along with related basic business plans, and the process will end soon.  |

The evaluation was mostly qualitative and worked from the perspective of the Most Significant Change (MSC) approach[[47]](#footnote-47), to obtain feedback from the different stakeholder groups, using appreciative inquiry[[48]](#footnote-48). The evaluation focused particularly on any kind of change process triggered by the project implementation, positive or negative, direct or indirect, through contribution analysis (e.g., looking at outcome level results).

Data validation was ensured through triangulation (e.g., use of three sources to confirm a finding) wherever possible. Distinction is made between the presentation of the findings (objectives) and the interpretation of the same (subjective). The consultants have no conflict of interest in this evaluation.

Contribution analysis was used to infer the causality between the observed and analysed effects and the factors that led to such outcomes to the extent possible, taking into consideration that some of the effects may not yet be fully visible now because the implementation is still on-going and not all outputs have been completed.

# Key evaluation findings

To facilitate the flow of reading this section is structured according to the Key Evaluation Questions (KEQ) detailed in the inception report, under each of its relevant evaluation criterion.

## 7.1. Relevance

### 7.1.1. Does the project remain aligned with national and donor priorities?

The project remains aligned with both national and donor priorities. As indicated in the historical context analysis, the problems related to waste management are not new but unfortunately, they have not been solved to date. Hence, the support that TaDWIR is providing to the country was and remains aligned with the national priorities as well as donor priorities. The project attempts to provide a comprehensive framework for the integrated and decentralised management of various solid waste streams, while also consolidating the governance of waste management at national level. The project offers a unique opportunity to bring together various different solid waste streams under one overall coordinated approach, that has the potential to significantly enhance the waste management capacity in various solid waste streams including at the sub-national level, working directly with municipalities through the establishment of several pilots projects.

### 7.1.2. Was the project strategy and design conducive to reach the expected results?

The project strategy and design are ambitious: working at the national level to improve the government of the waste management sector while working on several different solid waste streams at the decentralized level with municipalities and other key actors through four different specific objectives is a challenging approach, compounded by the complexity and the volatility of the context. The strategic project approach is two-fold: working at the national level on the reform of the waste management sector, something that requires governmental ownership and decision-making as well as political support, while working at the practical levels downstream with municipalities in selected locations where opportunities arise to be able to showcase the positive results that the project can bring to the various stakeholders, offering a win/win situation to the general population and vulnerable groups, the municipalities, civil society, the non-profit sector and the private sector. Given the size and complexity of the waste management problem, the project approach offers the chance to bring together various aspects which were heretofore not treated as part of an integrated approach towards solid waste management. As such, TaDWIR is reported to be the first project of its kind in the wide scope and potential benefits it can leverage for the waste management sector.

## Efficiency

### 7.2.1. Is the project bringing value for money?

The project took a long time to start. Although it is unclear to the evaluation team whether the project started earlier in 2021 or on 21st December 2021 as indicated, it did require some time: a) to find and recruit the adequate staff for the project (from 10 different positions identified in the project document, some posts are still unfilled such as the M&E and Reporting Officer, Project Coordinator on municipal waste, Communication officer). The brain drain from Lebanese leaving the country has accentuated in the last few years and it is becoming increasingly difficult to find technical expertise as required. b) to obtain funding from the EU, as after the first transfer of pre-financing in December 2021 for an amount of USD 692,076.—it took until 3 May 2023 to receive the second transfer for an amount of USD 2,459,343.--. Hence the project was slow to start and until the end of 2023 the total amount of expenditures and commitments was USD 1,892,904.77. This is based on the fact that during the first year (2022) the project team had to be onboarded and the identification of the necessary studies and assessments had to be done, and in 2023 the studies were carried out and almost all completed by the end of year 2023 with some specific deliverables which will be available during 2024. The total amount of expenditures is therefore low, but it is due to the fact that the project has not yet started with the demonstrative pilot projects which will take place in 2024.

In terms of value for money, the project has a potential to create various poles of win/win situation at the local level, provided that the pilots are efficiently managed and that all stakeholders (from municipalities to contractors in charge of the care and maintenance) are fulfilling their roles and responsibilities. There is a good potential for spin-off effects from the different waste streams to provide additional income to the vulnerable groups including women, for example through the production of compost, but more importantly, the project is a good opportunity to showcase how all stakeholders can gain from the project implementation if they are all committed, something that could over the longer-terms help change the negative public views surrounding the waste management sector.

Provided the pilots are carried out successfully and are being efficiently and transparently managed, the project will certainly be bringing good value for money. One key aspect linked to the value for money is the issue of financial sustainability, which is discussed under section 6.4.

### 7.2.2. Has it been efficiently managed?

The project has been operating with a skeleton staff much below the number of posts foreseen in the project document. As indicated by UNDP, it proved very difficult to find the people with the proper technical background and the volatile and complex socio-economic context has contributed to further brain drain and weakening of the national resources available. This affects of course not only the UNDP but also the government, which as seen a very high loss of staff and resources during the first three years of TaDWIR implementation. Therefore, though currently UNDP project staff are covering various posts and functions to the best of their ability, there remains a need for a stronger staffing in line with descriptions made in the project document.

The financial reporting is sound and feedback from different consultancy services that UNDP used to carry out studies and assessments indicate that there were no issues regarding financial aspects and that payments were made on time, and that the administrative procedures were clear. The only point of concern made had to do with the procurement rules about participating in tenders: given the delicate economic situation in the country many of the companies have externalised their activities under different sister-companies. This lowers the volume and turn-over of the Lebanese-based firm and has at time obliged companies to pair with other external companies in order to fulfil the procurement requirements. This is the one aspect that seemed to affect some consultancies, while the administrative and financial matters were handled without any apparent problem.

In terms of financial delivery, the commitments and expenditures as of 31.12.2023 amount to 60% of the total pre-financing received (e.g. USD 1,894,904 versus a total of USD 3,151,419). The project has started fairly slowly at its beginning, as it took almost one-year to have the project team on-board (even though some key posts remain unfilled). However, in 2023, the project actively launched a series of assessments and studies which were necessary to inform the implementation of the operational projects on the ground. A large number of high-quality reports were produced and disseminated under each of the specific objectives. From the interviews conducted, it appears that the consultants who participated in the studies and assessments are actually key subject matter experts. While neither of the MTR members is a subject matter specialist, the feedback regarding the studies commissioned by UNDP under TaDWIR are reported to be of high-quality and very useful to guide the way forward for the project. In a limited number of cases interviewees indicated that UNDP initially did not always seem to have a very clear strategy on the way forward: however it may be, given the ambitious size and scope of the project, what is important is that by undertaking these studies, it has allowed to discuss and leverage a clear way forward for the project implementation. It is also normal for such complex project not to have all the strategic details laid out from day one, as it is also work in progress and there is a part of learning by doing: the studies and assessments offer a venue on which stakeholders can engage and discuss the project implementation.

Some stakeholders considered that UNDP proved to be slow in the way that the studies and assessments were realized. However, when the consultants were asked about the efficiency and timeliness of the studies, two respondents indicated that there was quite a strong time pressure to carry out the work and that in other countries similar studies could take twice as long (e.g., one example was given of an EU funded contract in Haiti). From the perspective of the consultancy firms that have carried out the studies, their views are that UNDP has not been complacent with the timeline for the realisation of the studies and assessments.

### 7.2.3. How useful is the M&E system?

The Results Framework (RF) for the project is quite ambitious as all the targets are quantitative indicators linked to the tonnages of waste or imply a causality between the project and its results that would denote attribution, something that the project cannot claim at the specific objective (outcome) level. Attribution (or the capacity to measure the causality between the activities undertaken and the results they generate) can only be obtained at the immediate results (output) level. The current RF is based on the untested assumptions that IF the project is able to carry out all its activities are foreseen in the project document and in accordance with the workplan, THEN it will be able to obtain these ambitious results. However, TaDWIR does not have the capacity by itself to generate the higher-level results (specific objectives or outcome level) because it requires the conjunction of various factors and actors over which TaDWIR has not direct influence: government, municipalities, private sector actors and contractors, etc. The RF should be revised and target much more the direct results that each activity generates (output level results which can be attributed to the project) instead of measuring the % of waste treated. It is too early to jump to such level of result which is itself not within the remit of the project to achieve. It would be better and more realistic to target lower-level results for the project which would still show value for money (for example, number of successfully implemented pilots with a financial sustainability plan) rather than measuring systemic changes that the project contributes to, but cannot guarantee on its own. UNDP should take credit for what it can readily achieve, particularly at the output level (e.g., completed changes in skills, abilities, capacities, services as a results of the activities undertaken) and focus less on systemic changes that require the collective efforts of all actors to achieve. TaDWIR can be successfully implemented and yet it may not be able to achieve the indicators that have been identified in its Results Framework, thereby creating a gap between the actual value and performance of the project implementation and that of its overly optimistic Results Framework. In fact, it is already the case in the progress reports that have been submitted, as the indicators are almost all off-target, and the RF does not contain yearly indicators including process indicators to appraise the potential progress, but focuses on the end results which will, in the best of cases, not be achieved before the end of the project. It is therefore quite important to review the expected changes that TaDWIR can influence and contribute to (e.g. outcome/specific objective level) and find a finer and more qualitative manner to appraise the performance than the excessively ambitious performance targets that it has identified. The challenge in reporting about the indicators was already discussed and recognised by the UNDP during interviews, so this MTR should offer the possibility to revisit the RF and be more realistic about the achievements that the project can contribute to by the end of its implementation phase.

## Effectiveness

This is the main focus of the evaluation: is this project on track to achieving its objectives and goals? If so, why, and if not, why not? The following KEQ address different aspects of the project effectiveness, but it is also important to point out which benchmarks are being used to appraise the project (just as evaluation criteria have already been standardised and defined). To provide a better understanding of the benchmarks used in this MTR the following figure is included as an illustration:

Figure 1: Evaluation undertaken in a sustainable development context or in the context of Lebanon (source: author’s own illustration)

The *sliding scale*  in which benchmarks change (x-axis, minimum to maximum) is merely contextualising what the realistic application of the project from a theoretically stable sustainable environment scenario becomes once all challenges and constraints are factored into the project implementation.

* Sustainable Development Scenario performance
* Current Lebanese Context performance



All projects are subject to basic hypotheses and assumptions, which do not always materialize during the course of the implementation. Because Lebanon has compounded so many challenges and has a long history of difficulties in dealing with waste management in the country, a robust historical context analysis is provided under section 4. The multiples crises, conflicts, challenges and difficulties that have been plaguing the country over the past years do not allow to use the same benchmarks to evaluate the progress of the project as if it were undertaken under different conditions, in a sustainable development country context for example. This leads to the above *sliding scale,* which shows the project performance in its context. This means that while the level of the performance is the same in both of the figures above, given the complexities and challenges that underline the project implementation in Lebanon, it is giving a good progress to date as compared to its contextual potential. In another context, this performance could be seen as on the low side, but in the context of Lebanon, it is certainly on the high side. This rating is not given only on the basis of the practical outputs which have been delivered, and on the likelihood of its contribution to the achievement of the specific objectives, as well as on the basis of the analysis of the various documents reviewed, but also on the qualitative perception of the Key Informants that were interviewed by the MTR mission and from contribution analysis. As indicated in the methodology section, the KII used a questionnaire protocol using a 1 (minimum) up to 5 (maximum) rating scale on two critical aspects: a) their level of satisfaction with UNDP and b) their level of satisfaction with the project progress. Many KII preferred not to give a specific rating, and some were insufficiently aware of the project progress, or indicated that the implementation was still at the early stages, therefore the number of ratings obtained are low (respectively 9 out of 26 for the level of satisfaction with UNDP and only 5 out of 26 regarding the level of progress achieved by the project). Nonetheless, they show a high appraisal both regarding stakeholders’ levels of satisfaction with UNDP and with the project progress to date, something that was confirmed by KII’s qualitative appraisals when discussing the two questions.

Table 3: KII levels of satisfaction with UNDP and with the project progress (source: KII notes)



This indicates a very high level of satisfaction overall with UNDP, with an average of 4,67 out of 5 from 9 respondents, and a high 4,2 average on the project progress from 5 respondents, using a scale of 1 minimum up to 5 maximum. Those who did not provide ratings also generally indicated high levels of satisfaction with UNDP, with qualitative evidence supporting the hands-on and technical approach and competency of the UNDP staff, good communication and close interaction, responsiveness, and a commitment to delivering high quality results.

Box 1: illustrative comments regarding satisfaction with UNDP and with the project progress leveraged during KII (coded and not attributed)

* There is transparency and there is a continuous collaboration, there is credibility and follow-up
* Collaboration has proven to be very effective, I am very satisfied
* All the studies and work of UNDP is taken seriously
* …. We had a meeting with all UN showing unconnected interventions, but TaDWIR cost-recovery system is for the whole country, and it is all about sustainability and money
* This is the best approach given the current conditions, no one can do it better
* UNDP is really committed to making things happen
* UNDP’s pro-activity challenges us about the data and local perspectives
* We want to have a closer interaction with UNDP
* Gender is very important in waste management, it is in all UNDP projects (e.g. in waste management women are involved in sorting the waste, they also address women and children at school level….)
* This is the first and only chance to focus on the special streams of waste and properly organize them – it has never been done before, to address all special streams as part of a comprehensive system
* First time in Lebanon that EU methodology and planning tools are being applied, so it is important to have EU benchmarks to ensure the sustainability and success of WM actors
* UNDP people are experts, not only managers, so they understand the language (technical) that is being spoken
* UNDP should focus on monitoring the cost-recovery framework
* There is a big opportunity for waste management … but it is very challenging for the private sector because the financial perspective is dim… there are always vested interests
* Everything here is political, the biggest problem is corruption
* See if UNDP can review the pre-qualifications requirements to compete in tenders
* UNDP should do more coordination; we have limited interaction with them
* The cost-recovery is a good document and a good baseline and comparative study, we learned a lot from it
* UNDP is critical to curbing the hazards related to waste management, they do what they can to make things happen.
* UNDP is doing what they can, but the government should do more, and the problem is the political interference
* The most important element of the project is really focusing on specific waste streams that haven’t been attended to (2x)

### 7.3.1. What are the key results of the project, by outcome and by output?

Normally this section presents the Results Framework and the progress against its indicators. However, given that the TaDWIR RF has identified targets which are not within the remit of the project to achieve on its own, and requires full commitment and participation of other key stakeholders, government, municipalities, NGOs, private sector, and assume that a number of legal measures, regulations and laws are adopted, there is little value in reproducing the RF here. It is included as annex but not considered as a good guiding instrument to monitor or evaluate the project progress, given its overly ambitious specific objectives and results which are not well suited to inform on the project progress. As mentioned earlier, the RF does not contain yearly targets, only end of project targets, and no process indicators. The MTR therefore has chosen to review, analyse and discuss with KII the contents of the 2023 annual progress report with the following results:

Outcome 1: To reduce hazardous waste going to waste facilities, landfills and/or being dumped in environmentally unsound manner (hazardous HCW, e-waste and batteries)

(*suggested review of the outcome statement: improved hazardous waste management using environmentally friendly solutions)*

Result (output) 1.1. Hazardous HCW

Activity 1.1.1: A master plan for HCW was prepared and presented to MoPH and MoE, based on extensive stakeholder engagement. An important component was the assessment of advanced methodologies in waste treatment and disposal, selecting the most appropriate and effective options for the Lebanese context. This approach included a thorough review of existing policies and regulations related to HCW, proposing necessary amendments or new regulations to enhance HCW management efficiently and sustainably.

Activity 1.1.2: Based on the HCW masterplan, the project team focused on building upon the legal analysis of the sector, which aims to develop the necessary governance structures. This approach is meant to ensure a comprehensive and effective management system for HCW.

Activity 1.1.3. A significant project has been developed with the Karantina Public hospital, with the objective of increasing the HCW treatment capacity to complement the existing facilities and covering increasing needs in the BML, using Microwave technology. Several sites were assessed in coordination with the MoPH, and the project site was strategically selected after the feasibility study. It is conveniently located near numerous hospitals and other infections waste generators in the region and also close the current final waste disposal sites, which reduces transportation costs. At the time of the evaluation the construction has not yet started so it is not possible to discuss concrete implementation. However, as for all other pilots undertaken by this project in Lebanon, one key aspect of its success will be the capacity of the contractor to ensure proper care and maintenance of the facilities.

Activity 1.1.4: Develop and execute participation campaign (Awareness raising)

The project team prepared a robust communication strategy for the project. Although communication was essentially put as a secondary priority at the onset of the project, and given the lack of staff to assume the project communication needs (e.g., no communication officer recruited for the project although it is foreseen in the project document), this activity was only given fuller attention after the preliminary studies and assessments and strategies were established. As such, the project is now starting a comprehensive communication strategy, with many visual materials. It is in view of the MTR team an essential component which should be further developed and targeting different levels of stakeholders, including the general population and vulnerable groups. The communication strategy should cover not only HCW but all four specific objectives of the project.

Result (Output) 1.2. E-waste and batteries

Activity 1.2.1: a baseline assessment was undertaken by the project for e-waste and batteries in Lebanon. It shows that the future implementation of EPR (Extended Producer Responsibility) could play a pivotal role in enhancing and expanding local e-waste collection and treatment infrastructure.

Activity 1.2.2: support the implementation of EPR policies and regulations

UNDP initiated the development of an EPR system tailored to Lebanon’s specific challenges in managing electronic and battery waste. Phase 1 primarily focused on the development EPR legislation, while phase 2 marks the transition into system setup and operation commencement.

Activity 1.2.3: Support the development of sector responsibility and EPR implement (conditional on the government’s approval)

This activity requires the approval from of the government. In addition to activities 1.2.1. and 1.2.3, the project is set to develop comprehensive guidelines for managing the sector. Results are expected to be available in the first half of 2024. As part of the awareness campaign, a workshop was organized on 15th December 2023 to present the results of the baseline assessment and the EPR system with 30 participants from the public sector, syndicates, private and non-governmental organisations, and suppliers.

Outcome 2: 2. To improve the operational and financial efficiency of current waste facilities (where applicable) to produce higher value end products from municipal waste and optimize production cost

Result 2.1 Mixed municipal waste

Activity 2.1.1: assessment of market use of RDF including financial, social and environmental feasibility

An assessment of RDF production was completed with different scenarios regarding the use of RDF. KII also indicated to the MTR team that one actor who had prepared to use RDF in Lebanon could not do so given the lack of supplies, so availability/supply and quality of RDF seems to be an issue at present.

Activity 2.1.2: modification of feasible MRFs to increase the production capacity and to produce RDF and landfill cover material.

Four different scenarios were evaluated, and four different regions were identified for RDF production.

Activity 2.1.3: Set enabling environment for RDF use

Based on the four scenarios identified under 2.1.1. the project identified barriers and recommendations for the RDF sector in Lebanon. Scenario 1 is recognized as the most financially viable option but is faced with several challenges, among which securing a $68 million CAPX for initial investment, and ensuring ongoing financial sustainability, not counting with the need to overcome the legal, political and social barriers. An awareness campaign was organized in November 2023 to explain the rationale of using RDF for energy and industrial use, with 30 participants. Some sites have been proposed to pilot interventions and this will be further followed up.

Activity 2.1.4: cost/revenues plans and implementation

10 facilities have been targeted by the project to optimize operation costs of MSW facilities. The project has developed a feasibility study for each facility and final recommendations and financial analysis will be completed in early 2024.

Activity 2.2.1: perform baseline assessment of green waste quantities, quality and market situation

A baseline assessment of green waste has been completed, showing also the areas where green waste generation is near compost markets. Cost analysis for compost has been carried out, and shows that possible economic gains through compost production.

Activity 2.2.2: Selection of two regional pilots

In line with 2.2.1. two sites are considered for small-scale pilot composting projects. Women may have a major opportunity to engage in these pilots. Further discussions with MoE and key stakeholders for confirmation and approval of the two sites are warranted. A third site was identified should security concerns impede the realization of the site in South Lebanon.

Activity 2.2.3: implement of the two pilot composting operations

This will be undertaken once the decision from 2.2.2 has been reached.

Outcome 3: 3. To secure recycling of already at-source segregated waste and prevent it from being mixed with municipal or other wastes (CPW, SW and other special waste)

Result 3.1. Cardboard and paper waste (CPW)

Activity 3.1.1: Perform a baseline assessment of the CPW value chain

A baseline assessment of the CPW value chain in Lebanon was carried out and its results were presented in a workshop in February 2024.

Activity 3.1.2: improving the regulation of the collection and MRF-handling of the CPW.

The results of the activity will be available by May 2024

Activity 3.1.3: Improving the position of Lebanese papermills in the (international) value chain

This activity is done, and the results will be available in May 2024.

Result 3.2. Slaughterhouse waste

Activity 3.2.1. Prepare a national masterplan on slaughterhouse waste

The baseline study has been completed and the masterplan is being developed, with a due date November 2024. The main challenge is the issue of illegal slaughterhouses, with the expectation that the results of the masterplan will lead to a gradual decrease of illegal slaughterhouses. MoI is keen on this aspect and the project will aim to align the masterplan with national industrial policies and regulations (at present MoI is responsible for everything that goes on **inside** the slaughterhouse), ensuring an integrated and more effective approach.

Activity 3.2.2. Develop sector wide cooperation and initiative

This will be done during 2024 based on the findings of activity 3.2.1.

Activity 3.2.3. Support the sector on needed investments

UNDP will develop ToR for the design of a slaughterhouse facility, taking into account the masterplan that is being developed in activity 3.2.1.

Outcome 4: To improve the governance of the waste sector

Results 4.1. Governance and finance

Activity 4.1.1. Prepare a National Governance Framework for Wate Management

An integrated governance and cost-recovery framework for waste management is essential to promote sustainable practices and ensure proper waste collection, treatment, and disposal. Studies how that municipalities are unable to leverage the necessary resources to cover the costs, hence it is essential to develop and implement a cost-recovery system that will ensure financial sustainability over the long term.

Activity 4.1.2. Undertake needed financial analysis to set-up appropriate cost-recovery system.

The financial analysis is based on an assessment of the current financial situation and forecasts related to social aspects.

Activity 4.1.3. Prepare national guidelines for cost recovery at the municipal level

Building on the foundation of situational analyses, stakeholder engagement, and technical assessments, the national guidelines provide practical and data-driven solutions that are essential for achieving full cost-recovery for solid waste management in the unique and challenging context of Lebanon.

KII indicate that the Cost-Recovery system that has been produced under the project is of high quality and has been recognized as a sound and comprehensive technical document, containing very useful information and analysing the various connected aspects of cost-recovery over the short, medium and long terms. The cost-recovery model is currently being discussed by the Parliament to decide on which scenario is best suited to the Lebanese context. Other players such as the WB seem to have developed alternative Cost-recovery systems, so it is important that these be coordinated and streamlined in the best interest of the Lebanese population. In any case it is important for UNDP and development partners to lobby among political groups as all decisions taken have a strong political component and it is important to convince all political groups that a win/win situation can be achieved through the implementation of a properly tailored cost-recovery system for solid waste management. In addition, there are other key measures that need to be tackled by the government, such as the creation of a National Waste Management Authority, which will be instrumental in ensuring the implementation of an integrated waste management system for the country.

The project is therefore putting its building blocks in place, but it remains far from achieving the desired changes as these require decision making from government and a level of commitment towards long-term solutions that is not always readily available.

The activities that the project is undertaking and the results (outputs) that are being generated are essential aspects in order to contribute to the wider changes that the project is expecting to achieve, but the project remains at an early stage and the actual implementation of the demonstrative pilots will be taking place during 2024. Therefore, many KII indicate that the building blocks have been placed by the project but also that it is important to see how the pilots will be implemented, and most important, to ensure that they are not only successfully implemented by also transparently managed and with adequate contractors to ensure the longer-term care and maintenance.

### 7.3.2. What outcomes are likely to be achieved?

The project is ambitious and so are the outcomes identified. TaDWIR must necessarily rely on the government for some of the legal changes, passing laws and regulations, to support the process of creating an integrated waste management system in the country.

There are however a very high number of challenges (see point 6.3.6. below) that are likely to constrain the level of results it can achieve. To ensure that risks are being properly addressed requires a comprehensive outreach and partnership strategy to show the win/win situation for each type of concerned stakeholder: first and foremost, the government, but also private sector, non-government actors, municipalities, and more outreach towards the population to showcase concrete results. No lasting change will be possible unless the government approves the introduction of the cost-recovery system for waste management, as this endemic problem has led to substantial investments in past waste management facilities that were not sustainable and have not been sustained, hence creating the view that only short-term political interests are being serviced to the detriment of sustainable solutions for the public good.

All four outcomes/specific objectives require a collective effort and depends on the strengths of the partnerships established, both at national and at sub-national levels. UNDP should spend more efforts in informing and strengthening its partnerships as they are co-responsible for the achievement of the outcomes, something that the project cannot achieve by itself.

It is the view of the MTR that if all concerned stakeholders agree to play the win/win card and accept that the process under which TaDWIR is being implemented may lead to improved overall waste management performance, then it may be able to reach its stated outcomes. However, the indicators and targets set at the outcome level for the end of the project seem ill-informed and beyond the scope and influence of the project to achieve.

### 7.3.3. To what extent is the project goal achievable?

The goal of the project is defined as “to improve the overall environmental and financial sustainability of Lebanon’s waste management system”. This goal can only be achieved by the joint contribution of various actors, chief of which the government, so that all the institutional framework, laws, regulations, legislation, and conditions are in place to support such an improvement. The project goal is ambitious because it involved the collective efforts of all key stakeholders working together towards a common goal and generating a win/win situation. This has traditionally not been the case in Lebanon. The MTR found a profound distrust from the private sector towards the public sectors, seen as politically inclined and focused on short-term gains, versus sustainable longer-term solutions. As such, no successful examples of public-private partnerships were identified. Yet beyond the need to ensure an adequate cost-recovery system for the country and the need to establish a national waste management authority, there must also be a willingness for all actors to apply the same win/win approach in the SWM sector to benefit the population of the country. It is not clear that these conditions exist today. This is one reason why a number of key informants have repeatedly called for conditionality in the development aid that is given to Lebanon, to ensure that all key actors are playing with similar objectives and following a technical and social approach to improve the quality of life of its population through improved environmental and financial sustainability of the waste management sector.

In short, the goal is beyond the project reach, but the outputs and outcomes that are generated by the project certainly support the project goal. Yet the achievement of the goal requires a review on the potential application of conditionality. The same as the EU has successfully applied conditionality in other countries (e.g. for example in the ENPARD programme in Georgia), many call for conditionality to be applied to the grants that are being given to the country to avoid political interference and short-term wins for few stakeholders. UNDP is a technical development agency, and it does not have the capacity nor the mandate to address these geopolitical issues in the way the EU does. If the goal of the project is to be achieved at some stage, there needs to be wider measures undertaken to align the technical efforts to the political environment, the legislation and regulations, and an accountable and transparent management system that can ensure sustainability of the financial investments made, something which has been lacking to date in the country.

At government level, Lebanon’s cabinet should not agree to landfill expansions or new landfills without first ensuring that adequate Environmental Impact Assessment have been carried out, should increase transparency for the process, and should ensure meaningful consultations with municipalities and other stakeholders. In all cases, *sustainable waste management solutions should be focusing on reducing the quantities of waste sent to landfills rather than expanding current functioning landfills or establishing new ones*. The cabinet passed a decree on September 2019 mandating municipalities to provide the resources residents need to sort their trash at home. Nevertheless, rarely are municipalities abiding by the decree, and the majority of household waste is collected unsorted and sent to landfills rather than being sorted, recycled, composted, or otherwise diverted from a landfill. Some regulations exist, but the lack of enforcement of laws and regulations means they are rarely applied.

A good and sustainable waste management system should also *create public awareness programs to promote sustainable waste management practices that respect the right to health and a clean environment, while demonstrating the health risks of open dumping and burning*. The Lebanese authorities should ensure proper compliance and enforcement of waste management laws and decrees knowing that it is very difficult to set clear penalties for violators that serve as effective preventions to future violations in a country where the state is challenged even in collecting electricity fees in all regions.

### 7.3.4. What are examples of good practice?

UNDP has actively engaged all key actors and stakeholders in government, in the private sector, in the civil society and NGO sector, with subject matter experts in Lebanon and abroad, on a range of issues covered by TaDWIR. The MTR was able to interview people who were very knowledgeable about specific aspects of a waste stream, while not even being involved (outside of informal discussions and communications) as project stakeholders. This has provided the MTR with a wide view of the scope of the partnerships that have been developed. Furthermore, KII with sub-national and municipal level players also showed that UNDP has had a very active participatory approach towards on boarding the different players in support of the TaDWIR project. The partnership strategy has generally been quite strong, although there remain areas for improvement. But all informed actors in solid waste management have one way or another been included in the consultations for the implementation of the TaDWIR, even if as a sounding board.

Another example of good practice is that, since UNDP cannot by itself instill legislative changes or roll out an effective and integrated waste management framework without the support of key national stakeholders, the project has also foreseen the development of a few pilots for each waste stream to showcase the potential results. This is good practice as long as these pilots are transparently and effectively implemented and managed, ensuring that a proper care and maintenance approach is provided for its longer-term sustainability. So, an extra effort should be placed to put all possible positive factors that enable the success of the pilots during the current implementation phase.

In a different context this project should have been carried out by the relevant ministry, but in the context of Lebanon the MTR finds that it is good practice to ensure a direct execution modality for the project, even though there is a strong desire from the MoE for a closer and more integrative approach regarding their participation. Yet the challenges and history of the waste management sector over the past ten years is marked by a profound distrust between the private and public sectors. UNDP brings an impartial technical development knowledge that is only meant to serve the interests first and foremost of the Lebanese population. It is not yet time to change the implementation mode.

### 7.3.5. What capacities have been developed as a result of the project?

The MTR found that UNDP had previously shown a very strong technical support to key ministries in Lebanon, under a programme called PAU (project assistance unit) more than ten years ago. With the crisis in 2020/21 the programme was stopped, and all technical assistance is now provided through the work of the project staff in collaboration with the relevant ministries, but staff are no longer placed inside the ministries. The 2020 crisis also led to a depletion of the government human resources: for example, in the MoE, reportedly more than half of the staff have left their position. Many ministries do not have the funds or electricity or diesel for the generator. But this does not mean that nothing can be done: ministries remain operational, although there needs to be greater lead-time for turnover and coordination and things are not handled as efficiently as they could. Many of the national stakeholder interviewed showed a great commitment to getting the work done despite their own internal constraints. However, in order to carry out a formal capacity development process, certain conditions are necessary. TaDWIR has indirectly contributed to capacity development of national stakeholders through their inclusion in the discussions regarding the project strategy and the implementation of the different waste streams, through the holding of the Project Board Meetings, but also through the undertaking of the numerous baselines, assessments and studies which have been realized by key experts in their respective fields. All the preliminary work undertaken to date constitutes a strong basis for capacity development and it has a strong potential to influence both capacity development and decision making among governmental stakeholders.

A number of studies and assessments have been presented in workshops held with an inclusive participation from the range of national stakeholders. Some of the activities also included the development of training materials and training workshops, for example for the hazardous/infectious HCW.

### 7.3.6. What were the key challenges and shortfalls experienced during project implementation?

The project was plagued by difficulties from the onset. It is unclear whether the project started in May 2021 or on 21st December 2021, which is the date on which the DoA has been signed. The funds came late, after a first pre-financing of USD 692,076. — in December 2021 it took until 3 May 2023 to receive the second transfer for an amount of USD 2,459,343.--.

UNDP took some time and had difficulties to identify and recruit the project staff. To date, some key posts (such as HCW expert, M&E, communications) are still not staffed. In the increasingly volatile context and the intensification of the Gaza war and its impact on neighbouring countries, it is becoming more and more difficult to find people ready to stay in the country, so the brain drain has been and remains a key challenge for filling key project staff positions.

The absence of an M&E expert means that the results framework (RF) is built on an overly optimistic scenario, without the necessary monitoring of the underlying assumptions which have not materialised. An M&E expert with knowledge of RBM and the hierarchy of results would design an RF which places the actual results from the project activities at the first level of the results framework (e.g., outputs or immediate results), while for the higher-level results (outcome or specific objectives), which take more time to materialize and result from a combination of factors, not simply flowing from the project outputs, but through the contribution of various factors, should be less technical and much more qualitative, showing how the key pieces of the process to build a sustainable framework for solid waste management in the country is progressing. Measuring tonnage and coverage is jumping to conclusions that all the gaps and challenges will be overcome during the life of the project. These are untested assumptions.

Other difficulties have been the crisis in government, the hyperinflation, currency devaluation, asset restrictions, and generally an increased level of complexity aligned with a loss of financial and human resources at all levels. The private sector is clearly internationalizing its activities for the Lebanese based companies. In this context, it is actually quite remarkable for TaDWIR to have succeeded this far. This does not mean that everything was done perfectly, and certainly some delays have occurred, some of which can be traced back to UNDP. For example, two KII indicated that some tenders were cancelled or re-tendered without any explanation, thereby discouraging them from participating in that tender process.

Another potential challenge which will apply in the future is the potential bottlenecks that can be created for large procurement needs. Until now TaDWIR has low expenditures and no investments have yet taken place for implementation. But these will start very soon for the identified pilots and it is compulsory that the global system that UNDP uses for all its procurement needs, with a central service in Malaysia, can be made to be responsive to the needs of the Lebanon Country Office. This is not a minor challenge, as other evaluations of UNDP programmes have shown that there can be some delays and bottlenecks if not well identified in advance.

### 7.3.7. Has the project incorporated the UN programming principles in its implements, particularly Human Rights and Gender Equality, Leave No One Behind, and if so, have they leveraged specific results?

TaDWIR is a project for which the essence is entrenched in Human Rights. All its focus is on environmental safety and well-being, with direct and immediate consequences for the most vulnerable population (e.g. those living in or around landfills and other waste management sites), so it has a its core the willingness to protect human rights of all vulnerable populations in Lebanon without any exclusion. The results will be shown when the project is nearing its completion, as at present the activities undertaken do not directly target individuals or communities. However, the project is expected to be able to ensure the application of the programing principles throughout its implementation phase in line with the continued efforts that have been made to date.

### 7.3.8. Have gender responsive activities been undertaken by the project? If so, which ones?

TaDWIR is not a gender responsive project, but a gender sensitive project. This means that it cannot attempt to transform the relationship between gender and the environment without a specific design built into the project. With a GEN1 marker, what TaDWIR offers is the opportunity for women to have equal rights to participate in the activities and in the potential benefits of the project. Solid Waste Management is considered in Lebanon as a male dominated sector. Furthermore, working in a sector that has globally a negative social connotation (e.g. burning of waste causing toxic fumes and smoke) and has been more than once instrumentalized for political gains means that the sector is not a good example of gender-friendly project. It is unclear if women are willing to be associated with Solid Waste Management and there remains some targeted communication needs to show that SWM should not necessarily be a male sector. Some activities hold the potential for higher women participation (e.g., composting pilots to generate income) but in general terms the project has ensured access and equal opportunities to women at all levels of the project implementation and its activities. Noteworthy that ten women were interviewed in KII versus 22 men during the MTR process, and that except for the project manager in UNDP (male) all the rest of the project team are women.

### 7.3.9. What has changed as a result of the project?

It is too early to talk about a change yet, because the project is entering this year its implementation phase, so there is little concrete evidence to show at the field level in terms of results. What respondents indicated is that the main value of the project is that it brings the potential to develop an integrated SWM system for the country that covers a variety of streams that were individually targeted but without a comprehensive framework, while also supporting the government in producing and enacting the necessary changes to enable the goal improving the overall environmental and financial sustainability of Lebanon’s waste management system. This may be a last chance for the country to develop a framework that addresses both the national and sub-national and local levels (decentralised interventions) across such a wide range of waste streams and with a concern to ensure financial sustainability (through the introduction of a cost-recovery model without which sustainability cannot be achieved).

At present the project offers a very solid collection of baselines, assessments, masterplans, studies which all contribute to the development of this necessary integrated SWM system. It also offers hope that a) SWM can finally be addressed in an integrated manner, looking at all the necessary enablers, b) there can be sufficiently positive demonstrative pilots to convince the population, the politicians, national stakeholders and development partners that it is possible for the country to aim at an integrated SWM framework, c) that the population of Lebanon is able to benefit both economically (through income-generating activities) and from a public health perspective (lower toxic waste, fumes, HCW in landfills, etc.) from the efforts placed in the development of a comprehensive masterplan to manage SW in Lebanon.

### 7.3.10 To what extent did the project show adaptive management and followed its workplan?

The project showed adaptive management in the implementation of its workplans and looked for creative solutions in the case where the project team did not have the necessary technical skills (e.g., M&E, communications, HCW). Given that the project team has been consistently understaffed, it resorted for example to the use of consultancy services to provide the necessary communications materials. It could also benefit from a targeted M&E RBM consultancy to revise the RF and identify more relevant indicators and means of verification.

## Sustainability

Financial sustainability is a major cause of concern for all project stakeholders. In fact, to date there has been no viable solutions or sustainable investments in SWM in the country because the system is not applying cost-recovery models. The introduction of cost-recovery is currently being heatedly debated in Parliament, but is a critical component towards generating a financially sustainable system. The decision goes beyond the remit of the project although strong lobbying should accompany the technical presentations that UNDP makes including among political parties to build the case for the introduction of cost-recovery measures, without which the country will not be able to transcend its current limitations.

### 7.4.1. How much did TaDWIR promote national ownership of the project?

KII showed that the three ministries interviewed (MoE, MoPH, MoI) have a strong ownership of TaDWIR, even though the execution is done directly by UNDP. The project is seen as important to the national priorities and particularly the strategic plans of the three ministries, so the project counts with a strong support at the ministerial level. Nonetheless limitations linked to human resource and financial capacity curtail the level of involvement of the national stakeholders. As the project is now entering the implementation phase with a number of pilots across the various waste streams, it is generating greater interest and attention from national stakeholders and the extension phase will be critical to judge the level of national ownership and commitment to the project.

### 7.4.2. What are the threats and opportunities affecting project sustainability (financial, socio-economic, institutional and environmental)

The project is first and foremost an environmental project. Environmental sustainability is embedded in all actions undertaken by TaDWIR and all assessments, baselines, feasibility studies and ESIA are undertaken in line environmental sustainability requirements. Environmental sustainability is at the core of this project and is behind every activity and action undertaken by TaDWIR.

Socio-economic sustainability requires continued awareness raising efforts and demonstrations that the SWM sector is able to offer environmentally friendly and safe treatment and removal of SW so that the public and the local authorities will also accept that there are socio-economically viable solutions to the treatment and disposal of SWM streams. In this green waste is best placed and offers some spin-offs, for example regarding the generation of organic compost.

Institutional sustainability requires a number of actions and decisions by the government. First and foremost, the creation of a National Management Waste Authority is a necessary cornerstone for institutional sustainability. Other issues which equally affect the whole of the government in Lebanon should be addressed as the focus on the longer-term and secondary priorities (such as environmental concerns) see to come far behind the primary concerns of the key ministries (MoF, MoE, MoI, etc.) as the first priorities are directly linked to the war that Israel is spreading across the region and to immediate and more urgent priorities. Institutional sustainability is also dependent on the stability of the government and ministries.

Financial sustainability is the main concern shared by all stakeholders. The real test will come when addressing financial sustainability issues. To date, Lebanon has not yet achieved financial sustainability of the waste management sector, and the project offers a unique opportunity to develop a comprehensive and integrated approach across a wide range of waste streams. Although the project should also explain who and how other critical SW streams such as plastic and glass and rubber tires are being handled in the country, and how connected TaDWIR is with the complementary streams for plastic and glass waste, it should not be included in the scope of the project, which is already ambitious enough. However, to achieve financial sustainability the introduction of a cost-recovery system is of paramount importance. Without such a system, financial sustainability will not be assured, and the project results will remain as potential gains for the country but will lack the capacity to bring the benefits to fruition.

### 7.4.3. How many spin-off initiatives did TaDWIR create?

The project is not yet completed but there are some activities that can generate spin-offs in a number of waste streams. One of the most visible is regarding green waste, which can generate spin-offs for compost. Other opportunities exist but it will largely depend on how the pilots are being implemented, and looking for connectedness between the interventions and the potential opportunities that can be generated from these interventions.

## Conclusions

TaDWIR is an ambitious project that offers great potential benefits to the country, but it is faced with a particularly challenging environment and must be very cautious in the next phase of its implementation as it now starts to operationalise through a series of pilots the concepts and approaches that have been assessed, studied and discussed. The project started slowly but its skeleton project team is putting forth strong efforts to enable the project to deliver on its expected results, although the project team has been and remains understaffed including for some key positions. Over the 27 months of the MTR scope the project has essentially laid out the foundations for its potential success: a) at the national level, the various baseline, assessments, masterplans, studies carried out have been with a large degree of technical expertise and stakeholders recognise the good quality of the materials that have been delivered. This means that the capacity of having a national integrated framework for SWM is closer today than it was in the past, as TaDWIR brought together various streams of waste which did not receive the necessary attention. b) In addition to establishing the governance structure, and pending the political decision on the application of a cost-recovery model which is indispensable for the financial sustainability of the project benefits, the project is now entering the phase where a number of pilots will be implemented at the field level, many in cooperation with municipalities. While the decentralised approach is another important asset of the project, only ensuring that the technical and material investments are made is not sufficient to ensure the success of the pilot projects. TaDWIR is now entering the critical phase to showcase in practice the benefits that can be leveraged from implementing the various studies and scenarios that were discussed in its first two years through targeted pilots. The main risk is that as the country context is so complex and plagued with limited, if any, trust between private sector actors and the government, it is difficult to identify models in which win/win situations can be obtained. For the pilots under TaDWIR, the key issue is not only to set them up and ensure they are running, but creating all the necessary enabling conditions to ensure they can be sustainable. This includes efficient and transparent management arrangements, and that the contractors that will be in charge of the care and maintenance of the investments are not only looking at the economic gains but are also committed to a shared vision between the government of Lebanon, UNDP, municipalities, private sector and NGO sector, about the necessary benefits that need to be achieved, and a clear understanding and description of roles and responsibilities of each party to ensure that the success of the project is not jeopardised during the rest of its implementation phase.

As mentioned in the previous section, the project benefits at present are not financially sustainable. The adoption of a cost-recovery model goes beyond the reach of the project, but it has already developed such a model and it should be rolled out during the implementation phase if the Parliament approves the introduction of the cost-recovery system (at the time of the writing of this report it is not yet the case). At the same time, the project is ending in November 2024 and requires an extension, which was already requested in the project document at the time of its signing, to fully roll out its workplan. Discussions with KII indicated different views regarding the timeline needed for the project extension. However, after having completed the KII, discussions and analysis about a realistic timeline that takes into consideration the potential risks for project implementation, it is the view of the MTR that no less than four years should be granted for the completion of the project (see next section recommendations). While the work can technically be done probably with only three years, the soft skills, advocacy, partnership engagement and lobbying required to create the enabling conditions for the effective, efficient and transparent implementation and management of the pilots may not be visible to those who do not have to implement the project, but it is absolutely essential that these efforts be multiplied to avoid referring to TaDWIR as another one of the “could have been” successful projects in waste management. In a less complex and politicized scenario, three years may have been sufficient, but the MTR is convinced that additional work and efforts are required to have all the stakeholders’ buy-in to create the enabling conditions for the project success, something that requires a constant process over the entire extension phase. At the same time and to shield the project from political interference, the EU should carry out a ROM mission two-years into the extension phase, ahead of the final project evaluation.

TaDWIR offers a number of positive gains for the country, but it is unclear that all stakeholders share a common vision and perspective. Some stakeholders are concerned that key actors only have a short-term view and are looking at short-term gains, which are by nature not sustainable and for which many examples exist in the country as quick decisions on waste management have been taken on the spur of the moment that not only have not solved the problem, but led to a further loss of public confidence in the capacity of the government to address the problem. More lobbying and inclusive partnerships need to be strengthened to enable to project to benefit from these necessary enabling conditions.

## Recommendations

For UNDP:

1. Obtain an extension of four years for the implementation of the full TaDWIR special objectives.
2. Complete the recruitment of the technical staff (full staffing as per project document) or establish clear HR needs for the rest of the project life (considering staff or consultancy support such as for the communications materials), and review the project RF and review the targets including annual targets. Define clearly the yearly progress by stream (special objective) and the order of priority.
3. Review the workplan over the next four years with specific attention to shared buy-in and commitment from stakeholders, including for the management and maintenance contracts and not only for the procurement of infrastructure and equipment;
4. Increase dissemination materials and work both at national and local levels on demonstrative actions that contribute to changing mindsets about waste management
5. Support the ROM mission from the EU (see point 3 hereunder). Successful pilots can be models to be upscaled and replicated, provided they are sustainable.
6. Include the World Bank as member of the Technical Advisory Committee that is foreseen by the project and is currently being created.
7. Make the baselines, assessments and reports publicly available once they have been vetted by the government as they are of high quality and relevance.
8. Include in the yearly reports how the other waste streams not under TaDWIR (glass, plastic, etc.) are being taken care of to provide a comprehensive view of SMW in Lebanon, including efforts outside the remit of TaDWIR (looking at the coherence of the actors in SWM)
9. Plan for the final evaluation and include subject matter expert in the evaluation team.

For the EU:

1. Approve a four-year extension of the project.
2. Ensure conditional funding to the country so that the technical support is embedded on the necessary institutional and legislative changes required to enable the conditions for sustainability. TaDWIR cannot address all the required levels of change, but conditionality has been used by the EU to facilitate policy change and alignment of government policies.
3. Undertake a ROM (results-oriented mission) after two years into the extension phase to review the progress of the pilots and of the governance framework, including the introduction of any cost-recovery measures, ahead of the terminal project evaluation.
1. Note that the signed project document shared by UNDP bears the date 2-Feb-2022 while the Description of the Action copy provided is only initialled, but it is not dated or signed. The start date in the project document is supposed to be 1st May 2021, but according to the ToR the effective date was 21st December 2021. [↑](#footnote-ref-1)
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UNEG, “Integrating Human Rights and Gender Equality in Evaluations”, August 2014, [www.unevaluation.org/document/detail/1616](http://www.unevaluation.org/document/detail/1616) [↑](#footnote-ref-2)
3. https://erc.undp.org/ [↑](#footnote-ref-3)
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