





# Scoping Strategic Environmental and Social Assessment (SESA) Consultation Workshops Proceedings

Date | 28 March 2024

Project | Strategic Environmental and Social Assessment Study for Integrated Solid Waste Strategy

RFP No.: QC3C1c

**Council for Development and Reconstruction | Lebanon** 



#### 1. Introduction

In the Framework of the "Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Strategy" Project, the first scoping consultation workshops aimed to present the Draft National Integrated Solid Waste Management Strategy and Draft Master Plan of Lebanon, and the outcomes of the Draft Scoping Strategic Environmental and Social Assessment Report.

Five consultation meetings were organized, as indicated in **Table 1**.

Table 1: Region, Place, and Date of the Meetings

Region	Meeting Place	Date
Beirut and Mount Lebanon	Chamber of Commerce, Industry and Agriculture of Beirut and Mount Lebanon	March 4th, 2024
South and Nabatieh	Marimba Hotel in Damour*	March 5th, 2024
North and Akkar	Rachid Karame Municipal Cultural Center – Nawfal Palace, Tripoli	March 6th, 2024
Bekaa and Baalbek-Hermel	Chamber of Commerce, Industry and Agriculture of Zahle and the Bekaa	March 7th, 2024
Virtual Meeting	Microsoft Teams	March 8th, 2024

<sup>\*</sup> As a result of the security situation in South Lebanon, it was agreed to hold the consultation meeting for the South and Nabatiyeh in Damour

The meeting agenda is presented in **Table 2**.

Table 2: Meeting Agenda

Topic	Time
Registration of Participants	9:30 - 10:00
Introduction/Welcome Speech	10:00 - 10:15
Presentation of the updated Draft National Integrated Solid Waste Management Strategy, the Draft Master Plan and the Draft Scoping SESA Report	10:15 - 11:00
Questions and Answers/Open Discussion	11:00 - 12:00

Generally, there were a number of suggestions regarding alternatives, questions on service zones, but mostly, stakeholders wanted to understand the implementation arrangements and plans (roles and responsibilities of local authorities, central government, private sector, PPP arrangements and others) and the financing strategy (cost recovery, etc.). Moreover, all stakeholders support that the Master Plan and the SESA provide the necessary guidance on the way forward (keeping in mind specificities of different regions in Lebanon). All stakeholders support prioritizing practical and tangible steps over conducting numerous studies, and endorse private sector involvement. Furthermore, they emphasized the significance of education and awareness for the success and sustainability of the entire plan.

# 2. Summary of Discussions

The tables in the next sub-sections provide a summary of the discussions that took place during each consultation meeting.

## 2.1 Beirut and Mount Lebanon

Topic	Comments/ suggestions	Answers
Draft National Master Plan	<ul> <li>How does the Master Plan take into consideration variability in waste generation? Currently, facilities cannot work at their limit/design capacity. How is this taken into consideration in the estimated capacity of the facilities?</li> <li>Does the Master Plan take into consideration the existing facilities, taking note also that facilities less than 100 t/d may not be efficient?</li> <li>Does the work consider all types of wastes?</li> </ul>	<ul> <li>Variability in waste generation should be considered at the planning and design phase during the implementation of each waste management facility. The Master plan provides guidance for the overall indicative required capacity per facility type per SZ.</li> <li>The Master Plan takes into consideration all existing waste management facilities, and promotes prioritization of upgrading existing ones where possible, considering environmental, technical, economic, and social factors. However, please note that the Master Plan provides guidance for the location of the facilities and the overall indicative required capacity per facility type per SZ. The Local Action Plans/Master plans need to determine which facilities will be retained and upgraded, specify the exact location of new facilities, and define the number of facilities required per type (e.g., MRFs, MBTs, etc.).</li> <li>The Master Plan addresses mainly the management of Municipal Waste (MW). Law 80/2018 defines Municipal Waste as solid waste generated from households and any other similar type of waste generated by commercial, industrial, and administrative institutions. It also includes waste generated from municipal sweeping and maintenance operations.</li> </ul>
Service Zones	<ul> <li>How were Service Zones defined?</li> <li>Why are Service Zones being proposed?</li> <li>Will each Service Zone have one landfill? Does this mean having 17 landfills?</li> <li>Can Services Zones alternatives be considered in the analysis of alternatives?</li> <li>Who will manage the Service Zones?</li> </ul>	<ul> <li>A Service Zone is defined as the minimum geographical and administrative area where an Integrated MWM system is fully operative and provides sustainable management of MW, covering all related aspects of MW generation, temporary storage and collection, transportation, treatment and disposal, with emphasis on the maximization of resource use efficiency. In addition to the geographical and administrative aspects, the definition of the Master Plan's SZs incorporates a comprehensive consideration of the technical and operational parameters of the existing MWM system, based on consultations, including those with the Minister of Environment. In this context, the proposed SZs were defined.</li> <li>Service Zones are proposed to achieve the vision of the strategy, in addition to law 80 which calls for a move towards decentralization.</li> <li>Indeed, each SZ should have at least one Sanitary Landfill. However, the strategy is not based on landfilling. It focuses on the three main Strategic Objectives and encourages waste reduction, recycling, sorting at source, treatment, etc. Landfills will be used for rejects.</li> <li>According to the SEA Decree No. 8213/2012, in the context of the SESA study, the NISWM Strategy's Alternatives will be assessed, not SZs alternatives. The assessment will be conducted in comparison to the Draft</li> </ul>

Topic	Comments/ suggestions	Answers
		NISWMS and aligned with environmental policy objectives. However, it is important to note that the proposed SZs are subject to adjustments based on national planning, local plans, sectoral requirements, planned infrastructure, and socio-environmental considerations.  Larger municipalities can support smaller ones through a clear implementation and financing strategy, focusing on private sector involvement to alleviate pressure on individual municipalities.
Waste Generation	Please explain the basis for setting the waste generation quantities.  While it is true that waste generation might have declined (about 25 % reduction noted) during COVID-19 and the economic crisis in Lebanon, recent records indicate that waste generation has increased again; this needs to be considered in the waste generation figures.	<ul> <li>According to MoE, it was estimated, based on waste quantities received by formal facilities in the country, that over 2.6 million tons of MW were generated in 2018 (7,342 tn/d)<sup>1</sup>. As a result of the financial and economic crisis, the waste generation was estimated to be around 5,600 tn/d in 2022, based on some indicators pointing to a drop of around 24% since 2018, which is expected to return to 2018 levels in the next 5-7 years<sup>2</sup> (World Bank, 2023). In this context, the MW projections, consider a) the estimated waste generation of 2022, with the assumption that in 2027 the waste generation and waste composition will reach again 2018 levels, and b) the waste generation growth rates.</li> </ul>
Waste Characterization	How has the national plan been developed without a detailed waste characterization which is the starting point? Waste characteristics will vary depending on various factors. How this will be taken into account?	There is enough waste characterization data to prepare a strategy and national Master Plan; detailed waste characterization studies will have to be prepared at the level of each Service Zone to define local action plans/Master Plans.
Open Dumps	<ul> <li>Will the Closure of open dumps         Master Plan be updated since it         is based on 2016 surveys?</li> <li>What is the approach to the         closure of open dumps?</li> </ul>	<ul> <li>The World Bank UPOPs projects will update the Master Plan.</li> <li>The 2016 Master Plan has prioritized the closure of open dumps based on several criteria, including their risk to public health and groundwater contamination, amongst others; however key to close an operational dump is to have an alternative ready before halting its operation.</li> </ul>
Sorting at Source	<ul> <li>The sorting at the source decree was promulgated a while ago and has not been implemented; implementing sorting at source programmes require investments at the local level which needs to be considered in the project costs and cost recovery systems.</li> <li>Stakeholders like the Ministry of Education should play a role by integrating such topics in the curriculum of schools.</li> </ul>	<ul> <li>This is noted and indeed implementing sorting at the source require investments in collection infrastructure, transportation equipment as well as awareness and communication campaigns; these will be considered in the financing plans.</li> <li>Indeed, and this is considered as part of Strategic Objective 2.</li> </ul>
Technologies	Will the national plan recommend technologies that are tailored to the characteristics of each region?	The National plan provides guidance but is not restricted to specific technologies; the Local Action Plans/Master Plans need to define technologies that are best suited to location conditions; the plans are also output oriented.

 $<sup>^{1}</sup>$  According to UNDP-MOE-UNEP 2021 NISWMS.  $^{2}$  According to the MOE strategic approach presented at the COM on February 23, 2022 and World Bank, 2023, Lebanon Solid Waste Roadmap for 2023-2026.

Topic	Comments/ suggestions	Answers
	<ul> <li>Composting plants have largely failed in Lebanon due to the lack of source segregation of the wastes and therefore compost products could not be used for agriculture or had limited uses, and ended up in landfills, defeating the purpose.</li> </ul>	<ul> <li>and Law 80 does not restrict any type of technology as long as it is environmentally and technically suitable (which is then confirmed via EIA studies).</li> <li>Challenge of composting plants is noted; while the strategy aims at increasing rates of sorting at source, this will take some time, and feasibility of composting plants will have to be assessed at local Master Plans level.</li> </ul>
Conflict of Interest	<ul> <li>Isn't there a conflict of interest since the same consortium is updating the Master Plan and conducting the SESA? How will objectivity of the assessment be ensured?</li> </ul>	• There are different models to implemented SEA studies; one is integrated where planning and environmental teams are integrated, and one where these are totally separate teams; there are advantages and disadvantages to each mode; in this case, even though the same consortium is conducting both the Master Plan and SESA, there are distinct teams leading both processes; objective analysis and assessment is a core principle adopted by the team in addition to transparency to ensure the outcomes are credible and acceptable to stakeholders.
Roles and Responsibilities	<ul> <li>Roles and responsibilities from each party need to be very clear including for example roles of civil society in lobbying during implementation.</li> </ul>	This is noted and indeed very important.
Implementation Plan	Critical to the success of the strategy and national plan is a feasible implementation plan; how will they be implemented, what is the role of each stakeholder, including local authorities, how will costs be recovered, etc.	Noted and indeed, without a clear road map including a cost recovery system, the plan will not be implemented.
Financing and Cost Recovery	<ul> <li>Financing and cost recovery are key to the success of the strategy and Master Plan implementation. What are the government's plans to secure the resources to implement the plan?</li> <li>Lebanon's pricing strategy done by CDR has proven to fail as it was based on input (USD per ton collected) rather than output, which did not encourage the system to reduce or recover wastes; an effective cost recovery system needs to be developed that ensures cost recovery while helping achieve the strategy objectives.</li> <li>Unions of Municipalities have faced challenges in obtaining financing from international lenders (e.g. EBRD) as these would require a government guarantee for the loan; how can this barrier be addressed?</li> <li>Municipalities struggle to recover costs from households; the cost recovery system needs</li> </ul>	<ul> <li>MoE, with the support of other projects, is looking at various cost recovery options; a cost recovery legislation is also being discussed in the parliament as a complement to Law 80.</li> <li>Noted and being addressed in the new cost recovery model.</li> <li>With the new cost recovery legislation, lenders will have reassurance that borrowers would be able to repay their loans; access to finance will be easier when the cost recovery system is implemented.</li> <li>Noted; this is indeed a key criteria being looked at for cost recovery models.</li> <li>The strategy includes short, medium, and long-term actions. Initially, focus will be on achieving short-term goals, recognizing that facilities cannot be established without cost recovery. However, various activities, including awareness campaigns, sorting initiatives, etc., can be undertaken. Institutional administrative matters are prioritized within two years as an integral part of the process,</li> </ul>

Topic	Comments/ suggestions	Answers
	to look at implementation requirements and easiness to collect the fees.  • What actions can be done while waiting for the cost recovery law?	
Circular Economy	It is important that the legal framework and cost recovery systems do not only consider EPR as a tool to implement Circular Economy principles but other policies like control of flow of materials and policies to keep materials longer in the economy.	Noted and would be considered in implementation as part of Strategic Objective 3.
Analysis of Alternatives	The analysis of alternatives should consider as a main criteria the contribution to circular economy and options contribution to circularity; other important criterial are reducing impacts related to climate change; all options should be evaluated against the strategy objectives to see which contribute best to achieving the objectives.	These are noted and will be considered as applicable in the analysis; this is indeed the intent of the assessment.
Facilities Licensing and Permitting	As part of DAWERR project, which aims at encouraging reuse and recycling in Lebanon, a major challenge faced which has resulted in delays in implementation, has been lack of clarity in terms of industrial licenses required for different facilities; clarity in landfill classification, composting plants (Class 2?) and license requirements for selling composting are some examples; industrial zoning needs to be checked also as part of facilities siting.	This is a very important point and the SESA will clarify those in an effort to streamline the process; the consultants will reach out to DAWERR to collect information and lessons learned.
Project Schedule	What is the project schedule and what is the next phase?	The first scoping consultation workshop is in Beirut, the second in Damour (due to the security situation in the South), the third in Tripoli, and the fourth in Zahle. Feedback and comments on the three executive summaries posted online, are welcome until March 20th. Subsequently the scoping report will be submitted to the Ministry of Environment based on the SEA decree. Another round of consultations will be repeated during the SESA phase, followed by a final validation workshop and a final dissemination event.

# 2.2 South and Nabatieh

Topic	Comments/ suggestions	Answers
Updated National Solid Waste Management Strategy	Which year's strategy are you updating?	Consultants updated the Draft 2021 NISWMS based on the rationale explained in the presentation.
Education and Awareness	<ul> <li>Education and awareness play a crucial role in the success of this strategy.</li> <li>The strategy should incentivize consumers to buy environmentally friendly materials.</li> </ul>	<ul> <li>Indeed, public awareness and education are taken into consideration and they fall under strategic objective 2.</li> </ul>
Legal Framework	<ul> <li>Is there any specific consultation session for the cost recovery law?</li> <li>The polluter pays principle should extend to the producer as well, not the consumer only.</li> <li>Completing the legal framework would be crucial for this plan to work.</li> </ul>	<ul> <li>The first scoping consultation workshop is in Beirut, the second in Damour (due to the security situation in the South), the third in Tripoli, and the fourth in Zahle. Feedback and comments on the three executive summaries posted online are welcome until March 20th. Subsequently, the scoping report will be submitted to the Ministry of Environment in line with the SEA decree. Another round of consultations will be repeated during the SESA phase, followed by a final validation workshop and a final dissemination event. Regarding the cost recovery legislation in particular, a workshop was held at the World Bank to which mayors were invited to discuss its implementation. Cost recovery is very important for the strategy's success, because it is challenging for municipalities to finance the service from the municipal fund.</li> <li>It is true that producers should also pay for polluting, not just consumers. This is concretized through the Extended Producer Responsibility (EPR) concept.</li> <li>Everyone agrees that the legal framework must be completed for any plan to succeed. This aspect is also being tackled by the MoE with the support of the WB and UNDP.</li> </ul>
General Comments, Recommendations, Opinions	<ul> <li>We recommend learning from past successful experiences and understanding the causes of failures to prevent common mistakes.</li> <li>There are areas in need for infrastructure, such as Hasbaya-Arqoub. Although a grant was allocated to the Council for Development and Reconstruction for the construction of a wastewater project, no implementation has occurred until this date.</li> <li>Political factors are the major obstacle that can disrupt this plan, and administrative corruption is the direct cause of failure of most of the environmental projects in our area.</li> <li>We have seen numerous studies in this field, yet not a</li> </ul>	Consultants understand the lack of trust and hope for the approval of this strategy by the CoM, and for implementation and financing plans to be initiated.

Topic	Comments/ suggestions	Answers
	single one has been implemented. The South needs tangible actions, beyond the study phase.	

## 2.3 North and Akkar

Topic	Comments	Answers
Service Zones	What infrastructure will each Service Zone have?	Each Service Zone will have: drop-off center(s), reuse and repair centers; material recovery facility and biological treatment facility; transfer station; mechanical-biological treatment facility; sanitary landfill; phase out of open dumping and burning; and rehabilitation of old landfills and dumpsites. If any of these elements already exists in a certain Service Zone, the feasibility of its upgrade/ rehabilitation will be assessed to avoid the construction of new infrastructure where possible.
Implementation Phase	Who will oversee the implementation phase? We advocate for a legal provision to exclude the Council for Development and Reconstruction (CDR) from this responsibility based on previous experience. We advocate for the engagement of an independent party.	• During the implementation phase, technical personnel and consultants will likely be involved. The National Solid Waste Management Authority (NSWMA) (not established yet) is in charge of preparing centralized projects; supervising the implementation of these projects; and reporting to MoE on the progress of projects and on the achievement of targets. CDR is still conducting the planning, implementation, supervision and monitoring of activities but this role is expected to be transferred to the primary stakeholders once NSWMA is established as required by Law No. 80/2018. Moreover, two years ago, CDR declined its appointment by the CoM to plan, construct, and operate the approved Sanitary Landfills, due to the contradiction of the latter with Law 80 which mandates that local authorities are responsible for developing local solid waste management plans from collection to final disposal (collection- transport- sorting- treatment- final disposal).
General Comments, Recommendations, Opinions	<ul> <li>Why are we not able to access the complete reports rather than just the executive summaries? We request access to the full reports.</li> <li>Unfortunately, we see no representatives from Akkar, given that Akkar alone faces challenges in SWM that are equivalent to those of the entire country.</li> <li>The Mayor of Tripoli, along with other stakeholders in Tripoli, are unaware of this consultation session. We suggest expanding the invitation for the next sessions.</li> <li>We anticipated a plan specifically designed for Tripoli</li> </ul>	<ul> <li>Consultants have consolidated the key findings into executive summaries so that the public does not have to navigate through extensive details. Instead, they have created a concise summary focusing on the most critical aspects. If anyone wishes to obtain the complete report, they can request it from CDR.</li> <li>The invitation was distributed to the Unions of Municipalities, mayors of governorates' capital cities, governors, and qaemaqams, for them to disseminate it to the municipalities. Additionally, the current workshop is being held at Tripoli Municipal Palace, and it is assumed that the municipality and the mayor would be informed about it. Consultants will disseminate the next invitations at least 2 weeks in advance and lobby further for more engagement and participation.</li> <li>This strategy is on the national level at this stage; local action plans and Master Plans will be prepared for each Service Zone at a later stage, once the Stratgey is aproved and adopted. Tenders for some local level</li> </ul>

Topic	Comments	Answers
	rather than a national one. Tripoli, with its important Lebanese and refugee population, is struggling with waste management issues on daily basis.  We would prefer to have printed materials, particularly given the issues with the sound and projection. Having tangible materials would help us better follow along.  The strategy should focus on citizen culture and awareness to achieve the goals of the plan.  Many studies reach this phase and we cannot see any implementation.	<ul> <li>waste management plans are already in the process of being prepared and launched.</li> <li>Consultants apologize for the sound and lighting issues, as they were unexpected, especially a similar consultation was previously held at this premise. They will consider the suggestions regarding printed materials for the next sessions and/or ensure better logistics by selecting another venue.</li> <li>Indeed, public awareness and education are taken into consideration and they fall under strategic objective 2.</li> <li>Consultants understand the lack of trust and hope for the approval of this strategy by the CoM soon, and for implementation and financing plans to be initiated.</li> </ul>

## 2.4 Bekaa and Baalbek-Hermel

Topic	Comments	Answers
Service Zones	Can service areas be categorized based on their characteristics? For example, coastal regions like Jbeil and Jounieh are known for tourism, with a prevalent need for plastic recycling, while the Bekaa region is characterized by agriculture, where compost production would be more beneficial. This suggests that landfills and facilities can be tailored to the unique requirements of each service area.	This point is valid and it directly impacts the investment decisions and the sustainability of the facilities. The specific characteristics of each region will indeed be considered.
Treatment Facilities	Is the CDR responsible for the solid waste management facility in Bar Elias? Who is in charge of overseeing and protecting SWM facilities against theft?      Why has anaerobic fermentation not been successful in Lebanon?	<ul> <li>No, the CDR is not responsible for the Barr Elias facility. Local authorities are in charge of supervising SWM facilities and preventing their theft.</li> <li>The only anaerobic fermentation plant in Saida is deemed unsuccessful, primarily due to the absence of a sanitary landfill in Saida, which resulted in waste rejects accumulating near the plant, causing unpleasant odors. Additionally, the treatment alone is very costly (higher fees than the fees that Sukleen was charging), excluding collection and transportation expenses.</li> </ul>
• E	Energy recovery should be considered as a treatment option and allowed	<ul> <li>The main energy recovery technology options are anaerobic digestion, RDF and Waste-to-Energy (WtE). CSOs support anaerobic digestion only and reject RDF and WtE options due to concerns over emissions, proper O&amp;M, and fly ash disposal.</li> <li>Law 318/2023 on distributed renewable energy allows for selling renewable energy. Any gaps in the law can be addressed through recommendations for amendment.</li> </ul>

Topic	Comments	Answers
	<ul> <li>Citizens will be forced to pay waste management fees if their waste remains uncollected.</li> <li>Citizens must pay for SWM just as they pay other fees to the Municipality.</li> </ul>	<ul> <li>Amendment of Law 80/2018 to incur fees on citizens for cost recovery has been approved by the CoM and is currently being discussed by the Parliament. Once it is approved and implemented, municipalities will be able to carry out waste management or sub-contract it. The main obstacle to the success of SWM lies in financing.</li> </ul>
Financing and Cost Recovery	To operate a sanitary landfill, certain environmental criteria must be met. Once compliance is ensured, an individual can establish and operate the landfill and receive a predetermined amount of money per ton, according to the capabilities of each region.	To accomplish this, a cost recovery law must be in place, which is currently under discussion at the parliament. If approved, municipalities can directly collect fees from residential, industrial, and healthcare establishments. With citizens contributing directly, the private sector can initiate many projects, given the return-on-investment principle.
Governance	What role can the private sector play?	Within the vision of Law 80, there are three implementation possibilities:     Central projects implemented by the National Solid Waste Management Authority (not established yet); projects implemented through the provisions of the PPP law (law 48/2017), i.e. through public-private partnerships; and decentralized projects implemented by the local administrations.
General Comments, Recommendations, Opinions	<ul> <li>The awareness element plays a crucial role in the success of this strategy.</li> <li>A significant amount of funding is allocated to studies; it would be more beneficial to redirect these funds to tangible initiatives.</li> <li>We support the participation of the private sector in the supervision.</li> <li>We recommend learning from past successful experiences and understanding the causes of failures to prevent common mistakes.</li> <li>Decentralization is key to the implementation and success of SWM projects.</li> <li>Political factors are the major obstacle that can disrupt this plan, and administrative corruption is the direct cause of failure of most of the solid waste projects.</li> </ul>	<ul> <li>Indeed, public awareness and education, and private sector stewardship are part of the strategy and they fall under strategic objective 2.</li> <li>All the other comments are acknowledged and will be taken into consideration.</li> </ul>

# 2.5 Virtual Meeting

Topic	Comments	Answers
Draft National Master Plan	<ul> <li>Many studies were conducted recently on solid waste management by many parties (OMSAR, EU, etc.); were these taken into account?</li> <li>There are several lessons learned from previous experience: (1) compost like output has failed due to the lack of source separation; (2) without SRF/RDF, which typically handles more than 50% of the wastes, the quantity of rejects would be high</li> </ul>	<ul> <li>Not only latest studies were taken into account but also status of available infrastructure so that latest available data informs the strategy and national Master Plan</li> <li>These are important points to be considered particularly in the local action plans when defining specific solutions that can achieve the strategic objectives. Many local areas are starting to get covered through local plans done by UN-Habitat, World Bank, etc</li> </ul>
Draft NISWMS	Does the strategy cover solutions for industrial and medical waste?	<ul> <li>The strategy focuses on municipal waste. Other types of waste are covered by a recycling project funded by the European Union, to evaluate each type of waste, whether medical, industrial, or hazardous, for all sectors, and allocating a plan for each type.</li> </ul>
Service Zones	Is the Strategy all about dividing the country into 17 service zones?	• The strategy specifies actions for a short term (2024-2028), medium term (2029-2033), and long term (2033-2043) with certain indicators for monitoring and supervision. The strategy is not exclusively based on service areas, it has objectives related to the infrastructure, the community and private sector stewardship, and aspects related to governance framework which includes updating the legal framework and most importantly the cost recovery law that will enable municipalities to recover the cost of the waste management services from industrial facilities and residential units.
Sorting at Source	<ul> <li>In 2018, the Fayhaa Union of Municipalities implemented the Fayhaa Tafroz campaign, which was very successful and reached up to 36 tons of sorted waste per day; unfortunately, the campaign had to be halted as the sorting plant and composting facilities stopped operation.</li> <li>What is the implementation plan of the sorting at source?</li> </ul>	The Master Plan aims to set up a 3-bin separate collection system in order the sort the waste from its source, in addition to the awareness component.
Financing and Cost Recovery	<ul> <li>Implementation of the plan means there will be an increase in taxes to citizens?</li> <li>The cost recovery system should be designed in a way to incentivize good practices (eg. municipalities that implement waste segregation)</li> <li>Out of a total capacity in place of 6440 tons of waste infrastructure in Lebanon, only 8% is operational due to lack of funds to collect waste and operate the facilities</li> </ul>	<ul> <li>Several cost recovery studies are on-going; cost recovery systems will most likely include some sort of tax (direct or indirect) to be able to at least partially finance the system; however, this is on-going work and is being finalized by MoE in coordination with other parties, like UNDP. UNDP is currently conducting a governance and cost recovery study and outcomes can be shared with the team. The study resulted with a cost of approximately 2-8 dollars per month for rural areas and 3-12 dollars per month for urban areas. As for the industrial and commercial institutions, it ranged from 240 to 1200 dollars depending on the type of institution.</li> <li>The challenge in financing operation is a key one and should be addressed by the cost recovery workstreams</li> </ul>

Topic	Comments	Answers
Governance	<ul> <li>There is a major problem related to the lack of trust between the citizens and the government; how to build the trust?</li> <li>Corruption has been a major problem in the sector; often contracts are awarded to companies that do not have the qualifications to design, build and operate waste infrastructure, and this is due to corruptive practices.</li> <li>There is a general lack of compliance assurance in the system (lack of independent consultants supervising projects, etc.).</li> </ul>	<ul> <li>One objective of the strategy, and the preparation process, in a transparent manner, is to build this trust; indeed, this is a major issue and needs to be overcome.</li> <li>The role of anti-corruption legislation and procurement laws are critical to the success of the strategy.</li> <li>Compliance assurance is a critical element in any management system and indeed needs to be strengthened as part of the regulatory system and its implementation to avoid similar failures in the future.</li> </ul>

# Appendix A: Lists of Participants

## **Beirut and Mount Lebanon**



Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy SESA Scoping Phase



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Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy – SESA Scoping Phase



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## **South and Nabatieh**



Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy – SESA Scoping Phase



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## North and Akkar



# Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy - SESA Scoping Phase



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March 6, 2024

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Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy – SESA Scoping Phase



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# Bekaa and Baalbek-Hermel



Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy - SESA Scoping Phase



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March 7, 2024

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## **Virtual Meeting**



Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy – SESA Scoping Phase



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Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy – SESA Scoping Phase



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14	Ali Jaber				1.
15	Carole Ata Alfah				
16	Rawad Jamal	CDR			5
17	Farouk Merhebi				
18	Joelle Hanna				
19	Joseph				
20	Karl Mchayleh				
21	Lamia Mansour				



#### Strategic Environmental and Social Impact Assessment (SESA) Study for the Integrated Solid Waste Management Strategy – SESA Scoping Phase



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25	Paul Mouaikel				
26	Rana Sawaya	CDR			
27	Rana Zbeidy	ELARD			
28	Saad Dimachkieh	MOE			
29	Sara Aouad	SSCC Kfarhbab			
30	Zahraa				
31	Aya HT				
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# Appendix B: Workshop Pictures

# Beirut and Mount Lebanon





# South and Nabatieh





# North and Akkar





# Bekaa and Baalbek-Hermel





# **Appendix C: Presentation and Executive Summaries**

The executive summaries of the Draft NISWMS, Draft Master Plan, and Draft Scoping SESA report, as well as the presentation, can be accessed through the following link: <a href="http://www.elard-group.com/newsView.php?id=28">http://www.elard-group.com/newsView.php?id=28</a>

Comments and suggestions on all summaries were welcome through a written comment form. The received written comments as well as the consultants' answers are detailed in

Appendix D: Received Written Comments.

# **Appendix D: Received Written Comments**

Commenter	Report	Section Number / Topic	Comment	Answers
Carole Atallah	All Reports	-	• Tourism should be included since we have a peak during specific periods of time, and tourists do generate a big amount of solid waste — in specific regions. I think you should also check the numbers of waste generated during these peaks. Hospitality, Heritage sites, Natural sites will have an increase in waste during these periods. Just some quick and preliminary thoughts regarding this sector.	Indeed. However variability in waste generation should be taken into account during the planning and design phase of each waste management facility implementation. The National Strategy, Mater Plan, etc., provide the overall annual waste generation quantities per district according to MoE data.
Marwan Rizkallah	Draft NISWMS and Draft Master Plan		<ul> <li>Without ensuring proper financing or cost recovery system well set in place, it is impossible to implement any strategy.</li> <li>The strategy needs the national committee for waste management in place and functional to properly manage the sector.</li> <li>The details of how many facilities and the location is not highly important; however, doing a proper feasibility study is crucial. We have seen expensive compost plants set in place without having a decent quality compost: complete failure!!</li> <li>The rest is well in order, I may debate some of the numbers or locations. But it is irrelevant if we do not have the 3 above main points.</li> </ul>	<ul> <li>MoE, with the support of other projects, is looking at various cost recovery options; a cost recovery legislation is also being discussed in the parliament as a complement to Law 80.</li> <li>Indeed, and this is considered as part of Strategic Objective 3.</li> <li>The Master Plan offers guidance on the overall indicative required capacity per facility type per SZ and the siting of facilities. The Local Action Plans/Master Plans are responsible for determining which facilities will be retained and upgraded, specifying the exact location of new facilities, and defining the number of facilities required per type (e.g., Material Recovery Facilities (MRFs), Mechanical Biological Treatment (MBT) facilities, etc.).</li> </ul>
IndyACT	Draft NISWMS	Overall Comment	• Although the Lebanese Government has started to introduce the Circular Economy concept, it seems there is still lack of understanding on what it really means, how to integrate it, and is considered as a secondary approach, rather as the basis for the management of material flow in human society. This is also evident in the name of the documents, which is focused on "waste" management, rather than "material" management. We would have preferred to have a "Circular Economy" or "Integrated Material Management" strategies, rather than a "Waste Management Strategy".	These are noted and will be considered as applicable in the report taking into acount that the Strategy was structured according to Article 10, par.3 of ISWM Law 80/2018. It should also be note that the strategy aims to activate the top part of the global waste management hierarchy by setting clear goals to reduce waste generation and mainly resort to

Commenter	Report	Section Number / Topic	Comment	Answers
			<ul> <li>The Circular Economy is a by itself a full-approach for Material Management that the government should implement, which ISWM is only a part of that approach. Circular Economy does not fall under ISWM, but ISWM falls under the Circular Economy. Therefore, there should be an overall Circular Economy Strategy, which includes an ISWM strategy.</li> <li>Also, the Draft Strategy lacks details in relation to how the waste hierarchy will be implemented. Most focus and description have been on end-of-pipe infrastructure solutions, while concrete plans to implement circular economy principes are not available, and delayed to a later stage.</li> <li>Therefore, we, as civil society, despite tremendous improvement in thinking, feel that this again another missed opportunity to have a comprehensive Circular Economy (or Zero Waste) strategy. Our concern that all advances on the circular economy principles will not be implemented as soon as the end-of-pipe infrastructure is installed, similar to previous experiences.</li> </ul>	reuse. And then, activating sorting at source, which contributes towards minimizing cross-contamination among products and raises the quality of the extracted materials and their value as recyclable materials.  Indeed, and this is to be considered by MoE.  These are noted and will be considered as applicable in the report taking into acount that the Strategy was structured according to Article 10, par.3 of ISWM Law 80/2018. Details in relation to how the waste hierarchy will be implemented are given at Section 6.
		RDF	<ul> <li>IndyACT has substantial concerns in relation to including RDF or any kind of thermal or non-thermal destruction of material, for the following reasons:</li> <li>First, RDF system cannot and is not part of a circular economy system, as it leads to the destruction of material instead of returning it into the human economy. On the contrary, research has shown that technologies like RDF can hamper the transition to the Circular Economy<sup>3</sup>. According to the European Commission, Europe's adoption of such technologies has created a disincentive to increase circularity. That is why in areas, like San Francisco, which has adopted a full Zero Waste / Circular Economy approach was able to reach more than 80% recycling rates. Based on recommendation from its Technical Expert Group, the EU Commission has agreed that the taxonomy should exclude incineration from its list of activities that advance climate change mitigation, with Article 9 stating that minimizing incineration and avoiding destruction of waste will contribute to the circular economy.</li> <li>Based on personal communication with individuals involved in the development of the Draft Strategy, it is understood that the primary use of RDF is as fuel in cement kilns present in Lebanon in companies, such as Holcim. IndyACT has been following on the global discussion in relation to the decarbonization of cement production. The industry is currently looking at completely transforming the way it produces cement, with the aim to completely switch to renewable energy. Already, many innovative breakthroughs have been achieved. This means, potentially, companies like Holcim will stop requiring fuel for the production of clinker. This means, if Lebanon builds its waste strategy to include</li> </ul>	The Treatment Practice promoted by the NISWMS for commingled municipal waste is the Mechanical Biological Treatment (Material Recovery, Energy Recovery (Waste-Derived Fuel Production, Anaerobic Digestion and/or Composting)). Notably, the Strategy does not exclude any technologies applicable to MBT. Furthermore, the Master Plan refrains from specifying the technology to be employed in each proposed facility. Instead, the determination of the exact technology, capacity, and location is an integral part of the feasibility study conducted for each waste management facility. It's important to note that RDF is not the central solution of the Strategy. The strategy primarily promotes separate collection and recycling initiatives. Additionally, Mechanical Biological Treatment (MBT) facilities are envisioned to transition into Material Recovery Facilities (MRFs) and biological treatment plants for presegregated biowaste

 $<sup>^{\</sup>rm 3}$  https://www.sciencedirect.com/science/article/abs/pii/S0095069621001364

Commenter	Report	Section Number / Topic		Comment	Answers
				the use of RDF as fuel in cement kilns, there is a chance that this options becomes obsolete quickly, wasting any investment in related infrastructure.	in the long term. This shift aligns with the strategy's overarching goal of promoting
			•	The fact that the Draft Strategy is focused on end-of-pipe solutions and infrastructure raises the concern that RDF will eventually become the central solution, similar to numerous previous experiences in such strategies.	sustainable waste management practices and minimizing reliance on thermal treatment methods like RDF.
		Section 1: Vision, Values, and Objectives	•	The following principles should be added to the list of principles: <ul> <li>Extended Producers Responsibility Principle</li> <li>Circle Economy Principle</li> <li>Waste Hierarchy Principle</li> </ul>	Noted and will be considered.
			•	In relation to the Strategic Objectives: In the second Strategic Objective, the work on the Circular Economy has been confined to the community and private sector only, which should not be the case. As mentioned in the overall comment above, the Circular Economy is a full-approach that is implemented by the government, and hence, IndyACT recommends changing the second Strategic Objective to: "Develop and implement a comprehensive circular economy strategy to manage the flow of material through Lebanon's economy". IndyACT also thinks that this reformulated second strategic objective should be listed first, as it should encompass the overall strategic approach to managing 'material'. The fact that the "infrastructure" objective has been listed first, also indicates that the overall approach for dealing with the waste is after it becomes waste, and more towards end-of-pipe solutions, rather than following the waste hierarchy.	
		Section 4: Assessment of Future Needs	•	IndyACT is not sure if in the calculation of future needs, consideration has been given to increased efficiency in material management has been achieved. If waste reduction is considered a priority (as mentioned in the document), what expectation is there in the relation to the impact of adopting the circular economy and waste reduction strategies on waste quantity and composition?	These are noted and will be considered in the development of the national waste reduction plan (Strategic Objective 3)
		Section 5: Short, Medium, and Long Term Objectives and Priorities	•	Under Strategic Objective 2 targets: Sub-objective 2.1. To engage the community in waste reduction and implement sorting at source: The table on targets for sorting at source does not provide sorting targets to have an indicator of success of home separation: We recommend putting 50% within 5 years, and 80% within 10 years.  Sub-objective 3.3. Complete and enforce the waste management legislative framework: As mentioned in the overall comment above, ideally there should be an overall Circular Economy Strategy. The circular economy is beyond just EPR and source separation. It has multitude of elements including, reverse logistics, standardization of certain items (common shape for bottles for example), ban on certain chemicals in products, plastic reduction strategy (especially in light of the upcoming Plastics Treaty), etc. Therefore, IndyACT requests to have a specific	Noted and will be considered.  These are noted and will be considered in the development of the national waste reduction plan (Strategic Objective 3)

Commenter	Report	Section Number / Topic		Comment	Answers
				sub-sub objective for the development of a comprehensive Circular Economy Strategy.	
		Section 6: Best Technologi es and Manageme nt Options to Promote the Principles of Reduction, Re-Use and Recycling/R ecovery Towards a Circular Economy	•	Although this sections says that the waste hierarchy will be implemented, and waste prevention is considered as the priority, the level of planning in relation to this priority is minimal, and the main focus is on end-of-pipe infrastructure, rather than implementing circular economy principles.	Noted and would be considered in implementation as part of Strategic Objective 2 and 3.
		Section 10: Infratsructu re Costs	•	IndyACT sees that the focus again is on end-of-pipe solutions, rather than the whole strategy, which does not respect the waste hierarchy principle. It is important for the Draft Strategy, as well as the Master Plan, which is mentioned in this section, to include the cost of the other elements of the strategy, especially the implementation of source-separation, which requires substantial human and financial investment.	These are noted and will be considered. Cost for source-separation will be included.
		Section 11: Sources of Funding and Cost Recovery System Methods	•	Based on the Polluters Pays Principle and the Extended Producer Responsibility Principle, the cost of managing waste should be on the Producers, as they determine the design of the product, including how durable it is, what chemicals it contains, and how easy/hard it is to recycle. Therefore, a system of cost recovery based on equal fees for households is not just, since it treats all products (recyclable or not) equally. This creates a disincentive to switch into more eco-design, and does not impact consumer choices. Therefore, IndyACT believes that the cost of waste management should be incorporated into the products, based on how much it costs to manage the waste generated from that product. Such pricing system is best and most effective way to shift towards the circular economy.	These are noted and will be considered.
		Section 16: Civil Society Engagemen t	•	IndyACT does agree on the importance of civil society engagement. Nevertheless, there is always expectation that the civil society is well resourced and organized to conduct what is needed. Leaving the issue to organically develop on its own is not sustainable, and only also indicates to non-seriousness in this issue or the	These are noted and will be considered.

Commenter Report Number / Topic		Number /	Comment	Answers	
			topics that are left to civil society to work on, such as source-separation. Just like the private sector involvement is funded through a bidding process, awareness campaigns should be done by civil society, funded by the government through a bidding process. Again, source separation, which is mentioned under this section, requires a detailed strategy and plan that is well funded.		
		Section 17: Marketing of Recovered and Recycled Material	• Part of the Circular Economy Strategy is to create a market for recovered material. This is done not through pure marketing techniques, but by direct government interventions, such as creating a minimum percentage of recycled material to be contained in some selected products, such as paper or packaging. Also, incentives could be provided to industry to absorb recovered material. For example, if there is a lack of glass industry to absorb the recovered glass, the government should provide subsidies and tax breaks for the creation of a new glass factory. There are many examples to be used here, but we suggest changing the title to "Section 17: Securing a market for recovered and recycled material". The body text under this section should be adjusted accordingly as well.	Indeed. These are noted and will be considered.  Sections are titled and structured according to Article 10, par.3 of ISWM Law 80/2018.	
	Draft Master Plan	-	• In relation to the Draft Master Plan, IndyACT could not help but notice that the plan is focused only on infrastructure and end-of-pipe elements. The detailed plan should be provided for all sub-objectives of the Draft Strategy, as well as the budget required for their implementation. This includes source-separation, which is not a small operation, but requires dedicated staff, a detailed plan, and substantive annual funding.	Noted and this is to be considered by MoE/CDR.	