



Draft Scoping Strategic Environmental and Social Assessment Report

Executive Summary

Phase 4 | Deliverable D-4A

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

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Issued by:	Costis Nicolopoulos, LDK Team Leader / Project Manager, KE-1 Ricardo Khoury, ELARD Environmental Expert, KE-2 Latifa Reda, ELARD Social Expert, KE-3 Katerina Boutsikou, LDK Solid Waste Expert, KE-4 George Tsivilis, LDK Financial Expert, KE-5		
Reviewed by:	Costis Nicolopoulos, LDK Team Leader / Project Manager, KE-1		
Approved by:	Costis Nicolopoulos, LDK Team Leader / Project Manager, KE-1		

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List of Abbreviations

AFD	Agence Française de Développement
ALI	Association of Lebanese Industrialists
AQMN	Air Quality Monitoring Network
BAU	Business-As-Usual
CAS	Central Administration of Statistics
CBD	Convention on Biological Diversity
CCIA	Chambers of Commerce, Industry and Agriculture
CDR	Council of Development and Reconstruction
CDW	Construction and Demolition Waste
CoM	Council of Ministers
DGA	Directorate General of Antiquities
EDL	Electricity of Lebanon
EHS	Environmental, Health and Safety
EHSG	Environmental, Health and Safety Guidelines
ELARD	Earth Link and Advanced Resources Development S.A.L
EIA	Environmental Impact Assessment
ELV	End-of-Life Vehicle
EO	Environmental Objective
EPR	Extended Producer Responsibility
ESA	Environmental and Social Audits
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
EU	European
FCA	Full Cost Accounting
FCBA	Financial Cost-Benefit Analysis
FP	Financial Plan
GBV	Gender based violence
GDP	Gross Domestic Product
GHG	Green House Gases
GoL	The Government of Lebanon
HCP	Higher Council for Privatization
IBA	Important Bird Area
IEE	Initial Environmental Examination
IFC-WBG	International Finance Corporation-World Bank Group
ILO	International Labour Organization
ISWM	Integrated Solid Waste Management
IUCN	International Union for Conservation of Nature
KfW	Kreditanstalt Für Wiederaufbau
LC	Labor Code
LEF	Lebanese Environment Forum
LEM	Lebanon Eco-Movement
LRP	Livelihood Restoration Plan
LT	Long-term
MBT	Mechanical Biological Treatment
MoA	Ministry of Agriculture
MoC	Ministry of Culture

MoE	Ministry of Environment
MoEW	Ministry of Energy and Water
MoF	Ministry of Finance
MoI	Ministry of Industry
MoIM	Ministry of Interior and Municipalities
MoPH	Ministry of Public Health
MoPWT	Ministry of Public Works and Transport
MPA	Marine Protected Areas
MRF	Materials Recovery Facility
MT	Mid-term
MW	Municipal Waste
MWM	Municipal Waste Management
NGO	Non-governmental organization
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contributions
NISWM	National Integrated Solid Waste Management
NISWMS	National Integrated Solid Waste Management Strategy
NLWE	North Lebanon Water Establishment
NREAP	The National Renewable Energy Action Plan
NSEQ	National Standards for Environmental Quality
NSWCC	National Solid Waste Coordination Committee
NSWMA	National Solid Waste Management Authority
NSWMAP	National Solid Waste Management Action Plan
NRC	Norwegian Refugee Council
ODS	Ozone Depleting Substances
OHS	Occupational Health and Safety
OMSAR	Office of the Minister of State for Administrative Reform
PAH	Polycyclic Aromatic Hydrocarbons
PMU	Project Management Unit
POPs	Persistent Organic Pollutants
RDF	Refused Derived Fuel
SCP-NAP	Sustainable Consumption and Production National Action Plan
SEA	Strategic Environmental Assessment
SEP	Stakeholders Engagement Plan
SESA	Strategic Environmental and Social Assessment
SDG	Sustainable Development Goals
SLF	Sanitary Landfills
SLWE	South Lebanon Water Establishment
SPA	Specially Protected Area
SPAMI	Specially Protected Area of Mediterranean Importance
SO	Strategic Objective
SSO	Strategic Sub-Objective
ST	Short-term
SWM	Solid Waste Management
TS	Transfer Station
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEP	United Nations Environment Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
URDA	Union of Relief and Development Associations

USAID	United States Agency for International Development
USGS	United States Geological Survey
WB	World Bank
WEEE	Waste Electrical and Electronic Equipment
WHO	World Health Organization
WM	Waste Management

Executive Summary

The initial stage of the Strategic Environmental and Social Assessment (SESA) process is scoping, which aims to define the scope of the subsequent assessment. Specifically, it identifies environmental and social issues related to the **Draft National Integrated Solid Waste Management Strategy (NISWMS) of Lebanon (2023)**. These identified issues will be analyzed in the subsequent steps of the SESA. Therefore, scoping is crucial for the efficiency of the SESA process, ensuring that SESA Study concentrates on issues and potential significant effects relevant to the proposed Strategy.

Legal, Regulatory & Institutional Framework of Waste Management

The Government of Lebanon adopted Law No. 80/2018 on Integrated Solid Waste Management (ISWM), following the adoption of the ISWM policy in 2018 (CoM Decision 45 of 11 January 2018). Notwithstanding the importance of this milestone, some legislative reforms are still needed for the waste sector. They are further discussed under Strategic Objective 3, specifically in Sub-Objective 3.3.

Current legislation and regulations pertaining specifically to **waste management** include:

- Laws: 80/2018 (sets the framework for Integrated Solid Waste Management); 64/1988 (environmental protection against hazardous waste that could harm air, water, biodiversity, soil, and people);
- Legislative decrees: 7975/1931 (stipulates that solid waste should not be dumped randomly around residential areas but be removed and managed by the municipalities),
- Decrees: 5606/2019 (hazardous waste management); 5605/2019 (sorting at source); 13389/2004 (healthcare waste management) Decree 8735/1974 (protects against solid and liquid waste pollution and assigns waste collection and sweeping to municipalities).
- MoE Decisions: 998/1 and 999/1 of 2019 and 59/1 of 2020 (specify the procedures and principles for hazardous waste generators, transporters and temporary storage facilities respectively), decision 58/2020 (classification of Reuse Derived Fuel "RDF" resulting from non-hazardous waste).
- MoE Memos: Memo 4/1 of 2022 setting for the municipalities, union of municipalities, qaemaqams and governors, a tender document template for waste collection and transport.

Legislation related to **environmental safeguards** in Lebanon, include, in addition to law 444/2002 (environmental protection), decree 8213/2012 (Strategic Environmental Assessment), decree 8633/2012 (Environmental Impact Assessment), decree 8471/2012 (environmental compliance for establishments) among others. National environmental **standards** include decision 52/1 of 1996 (National Standards for Environmental Quality and the Environmental Limit Values for air, water, and noise), decision 8/1 of 2001 (National Standards for Environmental Quality - NSEQ), and decision 16/1 of 2022 (updated the ELVs for air emission sources figuring in decision 8/1 of 2001), Recommendations on the control of leachate are set out through IFC-WBG EHS Guidelines.

Applicable **social** legislation include: The Labor Code of 1946 and its amendments; Expropriation law 58 of 1991 and its amendments; law 207 of 2000 prohibiting all forms of discrimination between men and women in the workplace; law 220 of 2000 stipulating the civil rights of people with disabilities; law 293 of 2014 protecting women and family members from domestic violence; law 205 of 2020 criminalizing sexual harassment at any location; as well as decree 11802 of 2004 regulating occupational health and safety, and decree 8987 of 2012 forbidding child labor in hazardous jobs.

In addition to the national legislative framework, Lebanon has also ratified several **conventions** related to the protection of the environment, natural and cultural heritage, and labor such as the Minamata Convention (Mercury), UNFCCC, the Kyoto Protocol and Paris Agreement (Climate Change), Vienna Convention (Ozone), Stockholm and Basel Conventions (Persistent Organic Pollutants (POPs) and transboundary movement of hazardous waste), Convention on Biological Diversity (Biodiversity), Barcelona Convention on the (Protection of the Mediterranean sea against pollution and ILO Convention (Labor).

On the **strategic and planning aspect**, the most recent plans directly related to SWM include: the 2019-2030 Solid Waste Roadmap adopted in 2019, updated in 2020 (the Report of the Technical Committee formed by the CoM to support the Ministerial Committee in charge of studying SWM and in 2023 (ISWM Roadmap for 2023-2026), the Climate Action in the Solid Waste sector (2023), the Marine Litter Baseline (2021), and the 2017 update of the (2011) Master Plan for the Closure and Rehabilitation of Uncontrolled Dumps – noting that in May 2022, the CoM approved the sanitary landfills locations proposed by the MoE (Decision 67 of 2022). Other sectoral plans that can also impact the NISWMS include: Lebanon's commitment to the UN sustainable development goals for 2030, Lebanon's Nationally Determined Contributions (of 2015 updated in 2020), Lebanon's national strategy for air quality management for 2015-2030, the integrated vision for the Lebanese industrial sector for 2025 (issued in 2015), the sustainable consumption and production national action plan, and others.

Primary governmental authorities and private actors in waste management and their responsibilities are outlined, the MoE being responsible for the preparation of national strategies, legislation, and standards, as well as the

approval of local plans and environmental permits. The National Solid Waste Coordination Committee (NSWCC) coordinates issues pertaining to the solid waste sector, while the National Solid Waste Management Authority (NSWMA) should be in charge of preparing centralized projects and supervising their implementation; however, it has not been established yet. Local authorities are in charge of planning, implementing, and monitoring local waste management services; and private service providers are in charge of constructing and operating private or Public-Private solid waste projects. In addition, other transitional (CDR, OMSAR) and secondary (MoIM, Mol, MoPH, MoET, MoF, informal sector, private sector, NGOs and funding agencies) stakeholders play various roles in waste management.

With many interactions of different line ministries and a diversity of stakeholders in the sector, it is recommended to establish the National Solid Waste Management Authority, implement a Management Information System (MIS) and self-monitoring, and promote the inclusion of informal waste management operators in the formal sector.

National Integrated Solid Waste Management Strategy

This draft SESA scoping report reflects the draft NISWMS¹, version D-2B of 19 December 2023. The Draft NISWMS is structured around three (3) Strategic Objectives (SO). Each SO is comprised of Sub-Objectives (S-O), which provide the short, mid- and long-term Targets, and Measures, in order to ensure Integrated Waste Management that meet the needs of the Lebanese citizens and residents on Lebanese territory (please refer to **Error! Reference source not found.**, **Error! Reference source not found.** and **Error! Reference source not found.**):

Strategic Objective 1: Complete, Upgrade and Operate ISWM Infrastructure

- Sub-Objective 1.1: Establish an Effective Waste Collection and Transportation System
- Sub-Objective 1.2: Establish Reuse, Recycling and Material Recovery Facilities for Separately Collected Waste
- Sub-Objective 1.3: Establish Climate-Smart Waste Treatment and Energy Recovery Facilities
- Sub-Objective 1.4: Establish Climate-Smart Final Disposal Facilities and Close/Rehabilitate Open Dumps

Strategic Objective 2: Enhance Community and Private Sector Stewardship Towards a Circular Economy

- Sub-Objective 2.1: Engage Community in Waste Reduction and Sorting at Source
- Sub-Objective 2.2: Integrate the Informal Sector in the ISWM System
- Sub-Objective 2.3: Promote Private Sector Participation and Investment in Waste Management
- Sub-Objective 2.4: Enhance Public Awareness and Education

Strategic Objective 3: Enable an Effective Governance Framework to Implement the ISWM System

- Sub-Objective 3.1: Establish and Operationalize the National Solid Waste Management Authority
- Sub-Objective 3.2: Establish and Implement Cost Recovery System and the Extended Producer Responsibility
- Sub-Objective 3.3: Complete and Enforce the Waste Management Legislative Framework
- Sub-Objective 3.4: Complete and Implement the Planning Framework at the National and Local Level
- Sub-Objective 3.5: Establish and Operationalize a Waste (including Hazardous Waste) Management Information System (WMIS)

Alternatives That Will Be Studied in the SESA

The SESA will study 5 alternatives, as described in the below table

Strategic Objectives		A1: "Do Nothing"	A2: "Current WM System"	A3: NISWMS	A4: More Land Demanding	A5: Least Land Demanding
Infrastructure	Collection, Reuse and Recycling Practices	Assuming no changes in infrastructure, economics or people's attitudes and priorities, and governance, the current waste management system is expected to	<u>Minimum</u> Separate Collection of Waste Materials, Reuse and Recycling	Separate Collection of Waste Materials, Reuse, Recycling and Material Recovery Measures		
	Treatment Practices		<u>Minimum</u> Commingled Municipal Waste Mechanical Biological Treatment (Material	Commingled Municipal Waste Mechanical Biological Treatment (Material Recovery,	Commingled Municipal Waste Mechanical Biological Treatment (Material Recovery,	Commingled Municipal Waste Mechanical Biological Treatment (Material Recovery,

¹ LDK Consultants and ELARD, (2023). Final Draft National Integrated Solid Waste Management Strategy Report (D-2B), Project "Strategic Environmental and Social Assessment Study for Integrated Solid Waste Strategy", Lake Qaraoun Pollution Prevention Project, World Bank.

Strategic Objectives		A1: "Do Nothing"	A2: "Current WM System"	A3: NISWMS	A4: More Land Demanding	A5: Least Land Demanding
		continue unchanged, relying only on what is in place at the moment.	Recovery, Energy Recovery (Waste-Derived Fuel Production, Anaerobic Digestion/Composting)	Energy Recovery (Waste-Derived Fuel Production, Anaerobic Digestion and/or Composting)	Energy Recovery (Anaerobic Digestion and/or Composting)	Energy Recovery (Waste-Derived Fuel Production, Anaerobic Digestion and/or Composting) +Thermal Treatment (Incineration)
	Disposal Practices		Sanitary Landfills and Dumpsites (Commingled Municipal Waste and Residual Municipal Waste)	Sanitary Landfills (Residual Waste)	Sanitary Landfills (Residual Waste)	Sanitary Landfills (Residual Waste) + Sanitary Landfills (Incineration Residuals)
Community and Private Sector Stewardship			Gradually increasing	Effective Community & Private Sector Engagement		
Governance			Gradually increasing	Effective Governance Framework Implementation		






Key Aspects and Activities to be Addressed in the SESA






The key issues to be addressed in the SESA and against which the comparison and analysis of alternatives is proposed to be conducted are as follows:

1. Environmental & Climate criteria:
 - 1.1 Pollution and toxicity: air quality; water quality; soil quality
 - 1.2 Ecosystems conservation: biodiversity
 - 1.3 Protection of cultural heritage
 - 1.4 Climate considerations: GHG emissions
2. Geographical criteria: geographical constraints, space requirement/ land availability
3. Economic criteria:
 - 3.1 Resource efficiency: (percent) recovery of resources; land intake (diversion from final disposal)
 - 3.2 CAPEX (including cost of land)
 - 3.3 OPEX
4. Governance criteria (resources required to implement and oversee implementation)
5. Social acceptance criteria

The tables below would need to be reformatted to reflect the above.

A. Preliminary Identification of Environmental and Social Parameters and Environmental Objectives which are relevant with the Strategic Objectives (SOs), Sub-Objectives (S-Os) of the NISWMS and are laying the groundwork for assessing any potential environmental and social impacts follows:











Environmental Parameter	Environmental Objective (EO)
Biodiversity/ Flora & Fauna 	<ul style="list-style-type: none"> ↘ EO1A: Protection, preservation and management of biodiversity and avoid loss of ecosystems and protected species.
Air & Climatic Factors 	<ul style="list-style-type: none"> ↘ EO2A Reduction of emissions of gas pollutants into the atmosphere. ↘ EO2B Minimization of greenhouse gas emissions. ↘ EO2C Energy and fuel savings and increase of RES exploitation.
Acoustic & Olfactory Environment - Noise & Odour 	<ul style="list-style-type: none"> ↘ EO3A Noise reduction and avoidance of exposure to environmental noise levels more than permissible limits. ↘ EO3B Reduction of levels and intensity of odours emitted.
Water Resources 	<ul style="list-style-type: none"> ↘ EO4A Maintaining and improving the quality of groundwater, marine and surface water and the disruption of the hydrographic network.
Soil 	<ul style="list-style-type: none"> ↘ EO5A Preservation of the quantity and quality of soils ↘ EO5B Reduction of soil pollution.

<p>Land Use Material Assets</p> 	<ul style="list-style-type: none"> ↳ E06A Rational Land Use. ↳ E06B Protection and upgrading of the value of real estate in the proposed intervention areas. ↳ E06C Management, maintenance and efficient use of existing infrastructure as well as resources for the development of new infrastructure to prevent interventions into assets.
<p>Landscape</p> 	<ul style="list-style-type: none"> ↳ E07A Avoid landscape fragmentation during implementation of activities. ↳ E07B Minimizing the negative effects on the natural, man-made and cultural landscape and if possible, upgrading the aesthetics of the landscape through the implementation of activities.
<p>Population – Socio Economic Environment</p> 	<ul style="list-style-type: none"> ↳ E08A Sustainable population growth. ↳ E08B Improving conditions for access to public services. ↳ E08C Improving access to work, education, shopping, services, leisure. ↳ E08D Stimulation of productive activities related to interventions and expansion of economic activity.
<p>Human Health</p> 	<ul style="list-style-type: none"> ↳ E09A Improving quality of life. ↳ E09B Reduction of gas pollutants and noise emissions which in turn have a negative impact on human health.
<p>Cultural Heritage</p> 	<ul style="list-style-type: none"> ↳ E010A Preservation, protection and promotion of historic buildings, archaeological sites and other sites of cultural interest.

B. Preliminary Identification and Evaluation of NISWMS Effect on Environmental and Social Parameters: correlation between the Environmental Objectives (EOs) presented



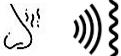







Correlation	●	●	●	●
	Compatible	Incompatible	Uncertain Connection	No Connection
	Affecting the EO positively	Affecting the EO negatively	Affecting the EO positively and negatively	No connection



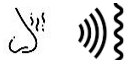







above and the NISWMS SOs and their specific SSOs.

Environmental Component - NISWMS	Biodiversity/ Flora & Fauna 	Air & Climatic Factors 	Acoustic & Olfactory Environment - Noise & Odour 	Water 	Soil 	Land Use & Material Assets 	Landscape 	Population - Socio Economic Environment 	Human Health 	Cultural Heritage 
Strategic Objective 1: Complete, Upgrade and Operate ISWM Infrastructure										
SSO 1.1 Establish an Effective Waste Collection and Transportation System	●	●	●	●	●	●	●	●	●	●
SSO 1.2 Establish Reuse, Recycling and Material Recovery Facilities for Separately Collected Waste	●	●	●	●	●	●	●	●	●	●
SSO 1.3 Establish Climate-Smart Waste Treatment and Energy Recovery Facilities	●	●	●	●	●	●	●	●	●	●
SSO 1.4: Establish Climate-Smart Final Disposal Facilities and Close / Rehabilitate Open Dumps	●	●	●	●	●	●	●	●	●	●

Discussion: SO1, along with the all SSOs, exhibits both positive and negative correlations with the Environmental Objectives (EOs) set for nearly all environmental parameters (biodiversity / flora & fauna, air & climatic factors, acoustic and olfactory environment, water, soil, land use and material assets, landscape, population & socio economic environment and human health). Despite potential adverse impacts from ISWM infrastructure construction, the overall outcome is positive, as it enables extensive and efficient waste management practices contributing to environmental sustainability.

Please note that in the upcoming stages of the SESA, there will be an analytical discussion providing comprehensive understanding of the potential impacts associated with the proposed SSOs.

Environmental Component - NISWMS	Biodiversity/ Flora & Fauna 	Air & Climatic Factors 	Acoustic & Olfactory Environment - Noise & Odour 	Water 	Soil 	Land Use & Material Assets 	Landscape 	Population – Socio Economic Environment 	Human Health 	Cultural Heritage 
Strategic Objective 2: Enhance Community and Private Sector Stewardship Towards a Circular Economy										
SSO 2.1: Engage Community in Waste Reduction and Sorting at Source	●	●	●	●	●	●	●	●	●	●
SSO 2.2: Integrate the Informal Sector in the ISWM System	●	●	●	●	●	●	●	●	●	●
SSO 2.3: Promote Private Sector Participation and Investment in Waste Management	●	●	●	●	●	●	●	●	●	●
SSO 2.4: Enhance Public Awareness and Education	●	●	●	●	●	●	●	●	●	●
<p>Discussion: S02, particularly SS02.1, SS02.3, and SS02.4, predominantly demonstrate positive correlations with Environmental Objectives (EOs) across various parameters, aligning with circular economy principles and promoting environmental sustainability. However, SS02.2 exhibits no connection with the majority of EOs set for most environmental parameters, given its anticipated indirect correlation.</p> <p>Please note that in the upcoming stages of the SESA, there will be an analytical discussion providing comprehensive understanding of the potential impacts associated with the proposed SSOs.</p>										

Environmental Component - NISWMS	Biodiversity/ Flora & Fauna 	Air & Climatic Factors 	Acoustic & Olfactory Environment - Noise & Odour 	Water 	Soil 	Land Use & Material Assets 	Landscape 	Population – Socio Economic Environment 	Human Health 	Cultural Heritage 
Strategic Objective 3: Enable an Effective Governance Framework to Implement the ISWM System										
SSO 3.1: Establish and Operationalize the National Solid Waste Management Authority	●	●	●	●	●	●	●	●	●	●
SSO 3.2: Establish and Implement Cost Recovery System and the Extended Producer Responsibility	●	●	●	●	●	●	●	●	●	●
SSO 3.3: Complete and Enforce the Waste Management Legislative Framework	●	●	●	●	●	●	●	●	●	●
SSO 3.4: Complete and Implement the Planning Framework at the National and Local Level	●	●	●	●	●	●	●	●	●	●
SSO 3.5: Establish and Operationalize a Waste (including Hazardous Waste) Management Information System (WMIS)	●	●	●	●	●	●	●	●	●	●
<p>Discussion: SO3, particularly SS03.2, SS03.3, SS03.4, predominantly demonstrate positive correlations with Environmental Objectives (EOs) across various parameters, as it enables an effective governance framework for the implementation of the ISWM system. However, SS03.1 and SS03.5, exhibit no connection with the majority of EOs set for most environmental parameters, given their anticipated indirect correlation. Please note that in the upcoming stages of the SESA, there will be an analytical discussion providing comprehensive understanding of the potential impacts associated with the proposed SSOs.</p>										

Scope of the Environmental and Social Baseline

The Report provides a comprehensive analysis of Lebanon's environmental and social baseline, encompassing the physical, socioeconomic, and biological environments, as well as solid waste management.

The **physical environment section** offers a detailed overview of the following: geography, location and topography; geology; soil characteristics; marine environment; surface water, groundwater, and hydrology; seismicity, climate and meteorology; climate change; land use/land cover and landscape and visual; acoustic environment; and atmospheric environment and air quality.

Starting with **Lebanon's geography, location, and topography**, the unique landscape influenced by natural systems extending beyond the country is emphasized. The section explains the current geomorphological matrix of Lebanon and how it is influenced by the historical **geological** events. As for the **soil characteristics**, Lebanon has twelve soil types categorized depending on their composition and permeability. Erosion and mismanagement of these soils are resulting in significantly stressed Land Productivity Dynamics. The physicochemical characteristics and the biodiversity richness of the **marine environment** are also described. In terms of **surface water, groundwater, and hydrogeology**, this section illustrates the thirteen rivers that cut through Lebanon with the main rivers being Litani, Assi, El Kebir, and Hasbani, and discusses the extent of water impairments in river systems and groundwater resources. Aspects related to **seismicity, climate and meteorology**, as well as **climate change** are also covered. The four **land use** categories, namely, agricultural, urban, natural, and mixed rural areas are illustrated. **Acoustic** environment data was not available, unlike the **atmospheric environment** data; **air quality** components such as NO₂, O₃, SO₂, PM_{2.5} and PM₁₀ were compared and validated against values from the previously operational air quality monitoring stations. Lebanon's efforts towards addressing ozone depletion are also acknowledged. Lastly, odor problems associated with solid waste mismanagement are discussed. It is important to acknowledge some baseline gaps in acoustics, soil pollution, and marine environment. While conducting additional surveys could enhance the comprehensiveness of the baseline in these domains, it is important to note that such surveys are beyond the scope and budget of the current project.

The **biological environment** section overviews the following: ecosystems and ecological environment; flora and vegetation; fauna and avifauna including migratory pathways and patterns; protected and/or designated conservation species; protected and/or designated conservation sites; sensitive sites; and existing threats and pressures.

The section goes through the diverse **terrestrial and marine ecosystems** present in the country, illustrating the Key Biodiversity Areas. **Flora and fauna** species present on the IUCN red list for threatened species are listed. Lebanon's actions to promote the conservation of all floral and faunal species include various conventions, laws, and decisions. Protected and/or designated conservation sites are grouped by nature reserves, nature sites, biosphere reserves, Ramsar sites, Important Bird Areas, protected areas under the Barcelona convention, and marine protected areas. Sensitive sites are illustrated in a high priority sites map. The section highlights the **significance** of Lebanon's biodiversity, particularly its role in supporting human livelihoods and the country's economy. Additionally, the section delves into the existing **threats and pressures** on the environment, including habitat fragmentation and degradation, overexploitation of natural resources, and pollution, underscoring the challenges faced in preserving Lebanon's natural ecosystems.

HEADQUARTERS

Off 21, Thivaidos St., GR-145 64 Kifissia, GREECE
Tel: +30 210 8196700, Fax: +30 210 8196709
email: main@ldk.gr
www.ldk.gr

Contact Name for this Assignment:

Mr. Costis Nicolopoulos
Tel: +30 2108196753
email: cni@ldk.gr

Amaret Chalhoub, Zalka Highway Fallas Building, 3rd Floor
Tel: +961 1 888 305 / 896 793, Fax: extension 146
email: info@elard-group.com
www.elard-group.com

Moving to the **socioeconomic environment**, the report explores the territorial administration; demography; employment and education; economic data and structure of the economic activity; balance of trade, productive sectors' characteristics; sites of cultural, historic and archaeological interest; poverty levels; inflation; grievances and controversies; potential threats; overview of the national social protection strategy; basic services and utilities; infrastructure; community health and healthcare system; and accidents and damages caused by natural hazards and manmade activities.

Lebanon's territorial administration, population and demographic characteristics sheds light on the distribution of the population by region and age group. Employment and education patterns and trends are also elaborated. The section discusses the economic characteristics of Lebanon, including the decreasing GDP, the evolution of the country's trade balance, and the main economic sectors, providing insights into the country's economic landscape. In addition to listing important sites of cultural, historical, and archaeological interest, the section also elaborates the effects of the socioeconomic crisis on poverty levels, the increasing inflation, the common grievances and controversies related to the political instability, as well as the current potential social threats including economic and political corruption and safety and security threats. An overview on the social protection system including Lebanon's social national plans are also highlighted. The current situation of the basic services and utilities and the current infrastructure situation in terms of electricity, water, and wastewater is explained and analysed. Concerns related to the healthcare system and hospitals' distribution is also overviewed. Lastly, accidents and damages caused by natural hazards and manmade activities included the Beirut port blast, forest fires, and the different sources of pollution.

Finally, a comprehensive overview highlights the current state of **solid waste management** in Lebanon, in line with the updated draft NISWMS, including the waste **generation and composition** and how they got impacted by the socio-economic crisis. Numerical figures of other **waste types** such as healthcare waste, electronic waste, and others are documented. SWM facilities are illustrated along the status of existing treatment and sanitary landfilling facilities. Numbers and volumes of operational, non-operational and inaccessible MSW dumpsites are presented. CDW types and quantities and their dumpsites are also elaborated. Lastly, the section shows the contribution of the waste sector to the GHG emissions, with CH₄ being the most common emitted GHG. The conclusion underlines the impacts of inappropriate disposal on public health through soil, water and air pollution.

The current environmental and social baseline serves as a summary of the main existing conditions across the different domains. This baseline will be further developed during the SESA phase, to build an in-depth understanding of each domain in order to properly assess the impacts.

Impact Identification and Evaluation Methodology

The Environmental and Social Impact Assessment and Evaluation Methodology that will be applied in the context of the SESA, is presented. During the SESA Phase, the methodological framework is anticipated to undergo refinement, incorporating the Client's remarks/comments, feedback from other stakeholders, outcomes from consultation meetings and any additional information or understanding that becomes available to the study team.

Task A. Identification and Evaluation of Environmental and Social Related Risks, Constraints and Opportunities

- Stage 1. Identification and Evaluation of Environmental Objectives
- Stage 2. Guiding Questions (GQ) for the Assessment of Environmental Objectives

HEADQUARTERS

Contact Name for this Assignment:

Task B. Evaluation and Assessment of Impacts

- Stage 1. Evaluation (identification and recording) of the significant effects/impacts.
 - Stage 2. Evaluation (identification and recording) of the cumulative and cross-border effects.
- The criteria under which the assessment will be conducted at a level of environmental and social effects are outlined below:

Assessment Criteria	Symbol/Value	Characteristic
Type	++	Strongly positive effect
	+	Potentially positive effect
	+/-	Mixed effect
	0	Neutral effect
	-	Strongly negative effect
	-	Potentially negative effect
	?	Unspecified effect
Risk of impact (Probability)	0	Negligible
	1	Low
	2	Average
	3	Certain
Intensity	0	Negligible
	1	Low
	2	Average
	3	High
Extent	1	On site
	2	Local
	3	Regional
	4	National/International – Cross-border
Reversibility	0	Reversible effect
	1	Irreversible effect
Duration	1	Short-term
	2	Long-term
	3	Permanent
Cumulation	0	Non-cumulative effects
	1	Cumulative effects

Stakeholders Engagement Plan

The Stakeholders Engagement Plan (SEP) serves as a comprehensive roadmap for stakeholder engagement, public information disclosure, and consultation throughout the entire SESA process for the NISWMS project. The introduction of the SEP outlines its objectives, emphasizing the importance of culturally appropriate stakeholder engagement, free of manipulation, interference, coercion, discrimination, and intimidation. It highlights the essential involvement of community groups, civil society organizations, NGOs, the public sector, the private sector, academia, and research institutions to ensure the success of the NISWMS and minimize environmental and social risks. It also details specific engagement methods to ensure the involvement of vulnerable/disadvantaged groups,

such as women-only consultation sessions, consultation sessions dedicated to other categories of vulnerable groups (refugees, disabled, youth, etc.), and diversification of outreach methods beyond digital media. Additionally, it outlines the timelines for the SESA study and the review of comments from stakeholders.

Most recent stakeholder engagement includes the consultation with the MoE staff after updating the Draft NISWMS (December 2023).

Include what is still relevant from the below:

Who	When	Where	Objective
Focus Group Meetings (total of 2; 2-hr each)			
NGOs + Government ²	Scoping Phase	MoE	Discuss NISWMS objectives/targets/measures; potential environmental & social risks; and alternatives
Private Sector ³ + Government			
Public Participation Sessions (total of 8; 3-hr each)			
Government, NGOs, private sector, vulnerable groups and women	Scoping Phase	- Beirut/ML area - North area	Discuss draft SESA Scoping report; seek stakeholders' feedback, concerns and suggestions
	SESA Phase	- South area - Bekaa area	Discuss draft SESA report; seek stakeholders' feedback, concerns and suggestions
Draft SESA Validation Workshop (3-hr)			
Same as the above	SESA Phase	MoE	Validate draft SESA report
Final Dissemination Meeting (2-hr)			
Same as the above	SESA Phase	MoE	Present final SESA report

The resources and responsibilities for implementing the stakeholder engagement activities are detailed in the SEP, including the budget for the SEP, the roles and responsibilities of the project team, and the Grievance Redress Mechanism, designed to address grievances or complaints related to the NISWMS project.

The Grievance Mechanism section outlines the process for addressing grievances or complaints related to the NISWMS project, including the grievance handling process, the roles and responsibilities of the project team, and the escalation process for addressing grievances.

The monitoring and reporting process for the stakeholder engagement plan is outlined, including information on the monitoring indicators, the monitoring frequency, the reporting format, and the roles and responsibilities of the project team in monitoring and reporting on stakeholder engagement activities.

This comprehensive approach to stakeholder engagement aims to ensure the success of the NISWMS project, minimize and mitigate environmental and social risks associated with the project.

The outcomes of Stakeholder Engagement will be presented in the Final Scoping SESA report.

Timeframes for the SESA Study

² MoE/CDR/MoIM/MoF/MoEW/MoA and others as identified in the Stakeholder Engagement Plan

³ Recycling & Composting Industries

The detailed tasks required to conduct the SESA Study are outlined below:

Tasks	Schedule
Scoping SESA Study (D-4B) Approval	16/02/2024
Draft SESA Report (D-5A) Submission	12/04/2024
Review period by Client and stakeholders	24/05/2024 (Expected 6 weeks) ⁴
Public Participation Activities (SS3)	20/05/2024-24/05/2024
Draft SESA Validation Workshop (SS4)	20/05/2024-24/05/2024
Addressing comments by the Consultant	27/05/2024-07/06/2024
Final SESA Report (D-5B) and Final SESA Executive Summary (D-5C) Submission	07/06/2024
Final Dissemination Meeting (SS5)	

⁴ The review period for SEA Reports as per Decree 8213/2012 is 30 days. Given the shortage of staff at MoE and the fact that staff are overloaded in the review of all studies as a result, the review period was increased by two weeks.