



Ambasciata d'Italia
Beirut



AGENZIA ITALIANA
PER LA COOPERAZIONE
ALLO SVILUPPO



WASTE OR
RESOURCE



Assessing Working Conditions in the Waste Management Sector in Lebanon

The cases of Hasbaya, Chebaa,
and Rashaya el Foukhar



Executive Summary

This report presents the findings of a two-phase study on working conditions in municipal solid waste (MSW) management in Lebanon, with a focus on the areas of Hasbaya, Chebaa, and Rachaya El Foukhar in South-Lebanon.

The first phase of the study, completed in September 2024 by MORES s.a.r.l. (Management Of Resources and Environmental Solutions) – a consulting firm providing services in sustainable development and the environment – assessed the challenges faced by waste workers. Data was collected through interviews, focus group discussions, and field visits.

The second phase, conducted in 2025 by consultant Abdo Nassar, built upon this foundation. It updated the assessment following the escalation in Israeli attacks in late 2024 and political developments in Lebanon. It further analyzes the political, economic, social, technological, legal, and environmental factors affecting the sector using a PESTLE (Political, Economic, Social, Technological, Legal and Environmental) framework and responsibility mapping.

This report compiles the findings of both phases that form part of the Waste or Resource consortium project aimed at reducing the environmental and health impacts of MSW while promoting sustainable waste management and decent job creation.

Key findings from both phases reveal significant gaps in infrastructure, employment conditions, occupational health and safety, governance, and psychosocial support for waste workers:

- Waste disposal sites and collection hubs suffer from inadequate infrastructure and unsafe equipment.
- Informal employment is widespread, with most workers lacking contracts, social protections, and regulated hours.
- Personal protective equipment (PPE) and safety training are insufficient, exposing workers to health risks.
- Although a National Solid Waste Management Strategy was adopted in late 2024, implementation remains limited, and coordination among stakeholders is weak.
- Workers face high psychosocial stress, compounded by a lack of support mechanisms.

These challenges not only threaten worker well-being but also undermine the efficiency and sustainability of waste management services.

The study calls for immediate measures to enforce the existing regulations as a start and to formalize employment, enhance wages and working conditions, and provide training and safety equipment, as well as ensure strategic investments for waste management infrastructure is conducted alongside active community engagement.

These improvements can be effectively realized at the local level, if the Lebanese government approves the cost recovery law that empowers municipalities to collect fees and sustainably finance waste services. Successful implementation of these recommendations will depend on strong political will, secured funding, capacity building across stakeholders, and an efficient waste management system based on the National Integrated Solid Waste Management Strategy aligned with international labor and environmental standards.

Acknowledgement

This study was conducted under the Waste or Resource project, commissioned by Oxfam and funded by the Italian Agency for Development Cooperation (AICS), in collaboration with CELIM, Cesvi, Oxfam Italia, Oxfam GB, Ingegneria Senza Frontiere Milano, Politecnico di Milano, and the municipalities of Hasbaya, Chebaa, and Rachaya El Foukhar.

We extend our sincere appreciation to the interviewed stakeholders, municipal staff, NGO representatives, and waste sector workers who generously shared their time, knowledge, and perspectives. Their contributions were vital to the success and relevance of this research.

Main Authors:

Mr. Abdo Nassar – Environmental Management Expert/Previously, Technical and Stakeholder Coordinator, MORES s.a.r.l.

Mr. Raji Maasri – Project Manager/Senior Environmental Expert, MORES S.A.R.L.

Mrs. Sabine El Khazen –Subject Matter Expert (Waste Sector, Labor Laws, and Health & Safety)/Environmental Expert, MORES S.A.R.L.

Mrs. Pamela Ilyas – Junior Environmental Management Expert, MORES s.a.r.l.

Reviewed by the Waste or Resource consortium, with follow-up from Marwan Issa (Research and Policy Advisor and Waste or Resource Project Manager), Eliana Mallouk (Programme Quality Coordinator), and Nizar Aouad (Influencing Lead) at Oxfam.

Photo credits: © CELIM Lebanon, 2025 — except when mentioned otherwise.

Table of Contents

Executive Summary	2
Acknowledgement	3
List of Acronyms	6
1. Overview	7
2. Introduction	9
3. Legal Framework Overview	10
4. Data Collection Methodology	15
4.1 Data Collection Challenges	16
5. Stakeholder list	18
6. Waste Working Conditions Outcomes Comparison	21
6.1 Legal Conformity	21
6.2 SWOT Analysis Results	26
6.3 RACI Matrix Results	28
7. Data Collection Breakdown	30
7.1 Informal Employment and Precarious Work	31
7.2 Health and Safety Concerns	32
7.3 Financial Strain and Working Conditions	32
7.4 Communication, Fair Treatment, and Awareness	33
7.5 Waste Management System Effectiveness	34
7.6 Impact of the 2023 – 2025 war on Waste Management Workers	34
8. Waste Workers Data Collection Overview and PESTLE analysis	35
8.1 Political Dimensions and PESTLE analysis	38
9. Recommendations in the Target Areas	40
9.1 Enhancing Governance and regulation in Lebanon's Waste Management Sector	42
10. Roadmap for Improving Waste Workers Conditions	46
11. Conclusion	48

List of Tables

Table 1: Legal framework Analysis	10
Table 2: Data Collection encountered limitations	16
Table 3: Actual Outreached Stakeholders List	19
Table 4: Waste Workers Current Conditions in relation to Lebanese Labor Law..... and previous assessment	22
Table 5: SWOT analysis results	28
Table 6: Compiled RACI Matrix	29
Table 7: Impact of the 2023 – 2025 war on Waste Management Workers	35
as Questionnaires Results	
Table 8: Comparative analysis of waste worker conditions in targeted areas	37
Table 9: PESTLE analysis	38
Table 10: Targeted recommendations	40

List of Figures

Figure 1: Location and boundaries of the 17 Service Zones and target SZ	8
for ISWM in Lebanon (CDR, 2024)	
Figure 2: Klls gender distribution	31
Figure 3: Waste accumulation – unbearable smell – in Hasbaya Site	32
Figure 4: Hasbaya waste collection truck using the dumpsite dirt road	33
(no other road) – long working hours, especially during holidays as waste generation increase	
Figure 5: Waste actor classification: (i) primary actors: dotted squares highlight	43
sub-systems (A) Formal Centralised System, (B) semi-Formal Decentralised System, (C) Informal Centralised System; (ii) support actors, distinguish information actor, financing act	

List of Acronyms

C&D	Construction and Demolition
CDR	Council for Development and Reconstruction
CNRS-L	Council for Scientific Research – Lebanon
CoM	Council of Ministers
DMF	Debris Management Framework
GoL	Government of Lebanon
IDPs	Internally Displaced Persons
ILO	International Labor Organization
MSW	Municipal Solid Waste
MoE	Ministry of Environment
MoIM	Ministry of Interior and Municipalities
MoL	Ministry of Labor
MoPH	Ministry of Public Health
MORES	Management Of Resources and Environmental Solutions
NISWM	National Integrated Solid Waste Management
NISWMS	National Integrated Solid Waste Management Strategy
NSWMA	National Solid Waste Management Authority
NSWCC	National Solid Waste Coordination Committee
NWA	National Waste Authority
OHS	Occupational Health and Safety
PESTLE	Political, Economic, Social, Technological, Legal, and Environmental
PPE	Personal Protective Equipment
RACI	Responsibility Assignment Matrix
RDNA	Rapid Damage and Needs Assessment
SEP	Stakeholder Engagement Plan
SoP	Standard of Procedures
SZs	Service Zones
UoM	Union of Municipalities
WB	World Bank



1 Overview

Lebanon's solid waste management (SWM) sector has suffered from chronic inefficiencies, poor strategic planning, and an overreliance on landfilling, an approach that has proven environmentally unsustainable and costly. These challenges have been compounded by political instability, lack of enforcement, and the destruction of infrastructure following the 2020 Beirut port explosion, which exacerbated the sector's fragility and led to worsening health and environmental risks for the population.

The Government of Lebanon (GoL) adopted Law No. 80/2018 on Integrated Solid Waste Management (ISWM), following the adoption of the ISWM policy in 2018. This was followed by the drafting of the draft National Integrated Solid Waste Management Strategy (NISWMS) in 2019 and the UNDP-MoE-UNEP 2021 NISWMS, in line with Article 10 of Law No. 80/2018. A roadmap for attaining the objectives of the ISWM policy was prepared by MoE, adopted by the Council of Ministers (CoM) in 2019, and updated in 2020.

However, Lebanon's economic collapse undermined solid waste services. The government-contracted waste collection company operating in Beirut and Mount Lebanon faced significant liquidity problems as payments were made in devalued Lebanese pounds. In April 2020, poor compensation and worsening conditions prompted hundreds of foreign workers to strike.

The World Bank (WB) Lebanon Roadmap 2023-2026¹ explains that municipalities and local authorities are responsible for waste collection operations and often contract private companies to carry out the task. Yet, constrained budgets and inconsistent coordination have resulted in inconsistent service quality.

Moreover, in December 2024, Lebanon's Council of Ministers adopted The National Integrated Solid Waste Management Strategy (NISWM²), which divided Lebanon into different service zones.

1. World Bank (2023). *Lebanon: Roadmap for Reforming Municipal Solid Waste Management*.

2. Final National Integrated Solid Waste Management Strategy of Lebanon, 2024 (COM decision No. 5 dated 17/12/2024)

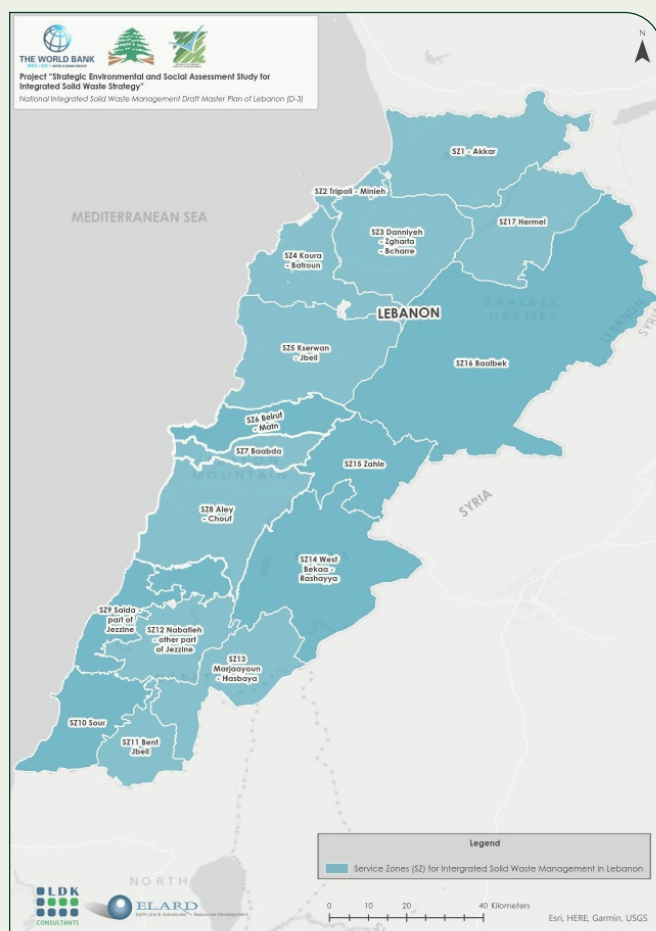


Figure 1:
Location and boundaries of the 17 Service Zones and target SZ for ISWM in Lebanon (CDR, 2024)

The Municipal Waste Management (MWM) Service Zone (SZ) is defined as the minimum geographical and administrative area where an Integrated MWM system is fully operative and provides sustainable management of municipal waste, covering all related aspects of waste generation, temporary storage and collection, transportation, treatment and disposal, with emphasis on the maximization of resource use efficiency.

The waste management sector continues to rely primarily on informal labor (mainly scavenging). The widespread nature of informality, along with the worker vulnerabilities that accompany it, underscore the urgent need to better understand the conditions under which waste workers operate, particularly in marginalized regions. Against this backdrop, the present report assesses working conditions in Lebanon's waste management sector, with a focus on Hasbaya, Chebaa, and Rachaya al Fokhar, while also proposing targeted actions to safeguard workers' rights, health, and safety.

Lebanon's informal solid waste management (SWM) sector plays a critical role in resource recovery, reducing landfill volumes, and supporting circular economy activities. Informal waste workers, often referred to as waste-pickers or scavengers, are active nationally and locally, particularly in urban areas and at dumpsites. The estimated number of informal waste workers in Lebanon is estimated between 1,000–4,000³. Their contribution is significant, from the diversion of recyclables from landfills all the way to reducing municipal disposal costs and supporting local recycling markets. While there remain no quantifiable estimates for waste recovery in Lebanon, it likely contributes to the generation of considerable recyclable streams.

3. KTH Royal Institute of Technology. Solid Waste Management and Informal Sector in Lebanon. 2016. Available at: <https://kth.diva-portal.org/smash/get/diva2%3A1139992/FULLTEXT01.pdf>



2 Introduction

This report delivers an assessment of working conditions in Lebanon's municipal solid waste (MSW) sector, focusing on Hasbaya, Chebaa and Rachaya al Fokhar and proposes targeted actions to safeguard workers' rights, health and safety. The study forms part of the three-year Waste or Resource? project, implemented in partnership with CELIM, CESVI, Oxfam Italia, Oxfam GB, Ingegneria Senza Frontiere Milano, Politecnico di Milano and local municipalities, seeks to reduce pollution's environmental and health impacts.

Over a three-year period, the program seeks to develop environmental and social responsibility models in the context of municipal solid waste (MSW) management in municipalities and MSMEs located in the Governorates of Nabatiyeh and the South.

The program's three core results are as follows:

- **R1 & R2:** Improvement of MSW collection, treatment, and disposal systems in municipalities of the Hasbaya district.
- **R3:** Promotion of innovation, productivity, sustainable production and consumption, and decent job creation within 20 MSMEs engaged in waste value chains in Hasbaya, Saida, and Tyre.

Building on the approved technical proposal, this study employed a multilayered research design to capture all aspects of waste workers' working conditions. First, a targeted literature review and custom questionnaire (Task 2) established the analytical framework. Fieldwork combined Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) with municipal officials, NGO representatives and waste sector experts to gather strategic insights, which were coupled by semi-structured interviews and onsite observations at dumpsites. In locations where security constraints prevented in-person visits, interviews were conducted remotely by phone.

All qualitative data were systematically coded and interpreted through a PESTLE analysis examining Political, Economic, Social, Technological, Legal and Environmental aspects of working conditions and cross-referenced with an updated RACI matrix to clarify stakeholder roles and responsibilities. The results provide key findings that are able to inform a set of tailored, actionable recommendations aimed at formalizing labor arrangements, strengthening health and safety protocols, and improving overall working conditions in the target municipalities.

3 Legal Framework Overview

This section provides an overview of the legal framework, detailing the labor law articles relevant to the study. This was supported by an analysis that encompasses both the Lebanese Labor Law and relevant International Labour Organization (ILO) standards, with a specific focus on the working conditions of waste workers and related policy recommendations.

A comparative methodology was employed to identify key areas of divergence between Lebanese labor regulations and ILO conventions.

The findings highlight substantial gaps between legal provisions and on-the-ground practices. Although certain aspects of the Lebanese Labor Law, such as limits on working hours, formally correspond to ILO guidelines, enforcement remains weak.

Table 1:
Legal framework Analysis

Minimum Age	
Lebanese Labor Law	<ul style="list-style-type: none"> • Article 16: Specifies conditions under which individuals convicted of certain crimes cannot host adolescent interns. • Article 21: Regulates work for adolescents under 18 years old. • Article 22: Prohibits employment of adolescents under 13 years old and requires a medical examination before employment.
ILO Conventions	<p>Minimum Age (Non-Industrial Employment) 1932 (No. 033): A minimum age of 14 years old for non-industrial jobs, with some key exceptions: Children over 12 years old can be employed in light work that meets specific criteria</p>
Recommendations	<ul style="list-style-type: none"> • Ensure rigorous enforcement of Article 22 of the Lebanese Labor Law, which prohibits the employment of adolescents under 13 years old without a medical examination. • Implement awareness programs among employers to educate them about legal provisions concerning adolescent interns to prevent illegal employment practices. • Design and execute an awareness campaign targeting youth, educational institutions, and parents. As well, develop educational curriculums for high schools related to “workers right” to promote good working conditions from early age.

Training and certification

- Lebanese Labor Law**
- **Article 18:** Employer obligation to provide comprehensive training to interns and issue a certificate of competence at the end of the internship.
 - **Article 36:** Ensures all employees receive a weekly uninterrupted rest period of at least 36 hours.

ILO Conventions

Human Resources Development Convention, 1975 (No. 142):

Mandates member states to establish comprehensive policies and programs for vocational guidance and training linked with employment.

Labour Administration Convention, 1978 (No. 150):

Outlines standards for national labor policies and the structure of labor administration. It emphasizes involving employers' and workers' organizations in policy-making, establishing comprehensive administration systems, and ensuring qualified and independent staffing with adequate resources.

Recommendations

- Strengthen the implementation of Article 36, which mandates a weekly uninterrupted rest period of at least 36 hours for all employees, ensuring compliance with this provision.
- Develop vocational training programs in accordance with the principles outlined in the Human Resources Development Convention, 1975 (No. 142), to enhance skills development among interns and employees.
- Establish and implement a Compliance Monitoring and Support Program to be led by the concerned municipality if it is not the operator of the facility, or by a third party in case the municipality is the operator to ensure conformity to Article 36 and support the role of MoL.

Working Hours

- Lebanese Labor Law**
- **Article 31:** Sets maximum weekly working hours (48 hours) for various categories of workers, excluding agricultural workers.
 - **Article 32:** Allows for reduction of working hours for strenuous or unhealthy tasks by ministerial decree and possible increases in specific circumstances like restaurant work.

ILO Conventions

Reduction of Hours of Work (Public Works) Convention, 1936 (No. 51)

- Limits workweeks to 40 hours in public works.
- Allows exceptions for emergencies and certain special projects.

Recommendations

- Revise Article 31 of the Lebanese Labor Law to align maximum weekly working hours with international standards, ensuring exceptions are made only in necessary circumstances.
- Ensure that any increases in working hours, as permitted under specific circumstances such as restaurant work, comply with the principles set out in international labor standards.

Annual Leave and Sick Leave

- Lebanese Labor Law**
- **Article 39:** Grants employees with one year of service a 15-day annual leave with full pay, and prohibits dismissal or notice during this period.
 - **Article 40:** Provides sick leave entitlement based on length of service with full or half pay.
 - **Article 41:** Specifies procedures for sick leave certification and employer rights to verify medical certificates.

ILO Conventions

Holidays with Pay Convention (Revised), 1970 (No. 132):

The convention sets a **minimum standard of three working weeks** for one year of service. However, member states can establish a longer minimum duration in their declaration.

Recommendations

- Ensure strict adherence to Article 39, which grants employees with one year of service a 15-day annual leave with full pay, and prohibits dismissal or notice during this period.
- Review sick leave policies to align them with the minimum standards set by Convention No. 132 (Holidays with Pay Convention (Revised), 1970), considering longer minimum durations as allowed by member states.

Minimum Wage

- Lebanese Labor Law**
- **Article 44:** Ensures minimum wage is sufficient for employees' basic needs and not below the official minimum wage.
 - **Article 45:** Establishes commissions to determine and enforce the minimum wage through collaboration between government, employers, and employees.

ILO Conventions

Minimum Wage Fixing Convention, 1970 (No. 131):

Requires member states to establish a system of minimum wages covering all appropriate groups of wage earners. These minimum wages must be legally enforceable and not subject to reduction.

Recommendations

- Regularly review and adjust the minimum wage rates in Lebanon to ensure they meet the basic living standards of employees, as required by Convention No. 131 (Minimum Wage Fixing Convention, 1970).
- Establish a systematic approach involving government, employers, and employees to determine and enforce minimum wage rates effectively.

Occupational Health and Safety

Lebanese Labor Law **Article 62:** Prescribes general safety measures for all establishments, with specific provisions for different professions or types of work as needed.

ILO Conventions **Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187):**
National framework for continuous OSH improvement.
Develops national policy, system, and program.
Promotes preventative safety & health culture.

Occupational Safety and Health Convention, 1981 (No. 155):
Applies to all branches of economic activity (with some exceptions).
Requires establishing a national policy, system, and program for OSH.
Emphasizes employer responsibility for workplace safety and worker health.
Encourages worker participation and training in OSH.

Recommendations

- Strengthen the implementation of Article 62 of the Lebanese Labor Law to ensure comprehensive workplace safety measures for all professions, consistent with international standards.
- Develop and enforce national policies, systems, and programs for occupational safety and health (OSH) as outlined in Conventions No. 187 (2006) and No. 155 (1981), emphasizing employer responsibility and worker participation in OSH.

Labor Organizations

Lebanese Labor Law **Article 83:** Allows employers and employees in each profession to form special unions with legal status to represent their interests.

ILO Conventions **Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87):**
Guarantees workers and employers the right to establish and join organizations of their choice without prior authorization. It prohibits interference with these organizations and ensures their freedom to form constitutions, elect representatives, and engage in activities.

Recommendations

- Safeguard the rights of workers and employers to form unions as guaranteed under Article 83 of the Lebanese Labor Law and Convention No. 87.
- Ensure that there is no interference with the establishment, operation, or activities of workers' and employers' organizations, respecting their freedom to form constitutions and elect representatives.

Placement Offices

Lebanese Labor Law **Article 110:** Mandates municipalities to establish placement offices under government control, with regulations for private placement offices.

ILO Conventions **Employment Service Convention, 1948 (No. 88):**
Requires member states to establish and maintain a free public employment service to facilitate efficient labor market operations, promote full employment, and ensure stable employment conditions through cooperation with public and private entities, alongside comprehensive vocational guidance and training measures.

Recommendations

- Strengthen the infrastructure and operations of placement offices mandated under Article 110 of the Lebanese Labor Law, ensuring they are under government control and comply with regulations for private placement offices.
- Enhance the efficiency and accessibility of public employment services to facilitate labor market operations, promote full employment, and ensure stable employment conditions as per Convention No. 88

Gender Discrimination

Lebanese Labor Law **Article 26:** Prohibits gender discrimination by employers in various aspects of employment including job type, wages, promotion, training, honors, and attire.

ILO Conventions **Equal Remuneration Convention, 1951 (No. 100):**
Mandates that men and women receive equal pay for work of equal value, enforced through national laws, collective agreements, and objective job evaluation methods.

Recommendations

- Implement measures to eliminate gender discrimination in employment practices, as prohibited under Article 26 of the Lebanese Labor Law and mandated by Convention No. 100.
- Ensure equal pay for equal work through national laws, collective agreements, and objective job evaluation methods, promoting gender equality in job type, wages, promotion, training, honors, and attire.



4 Data Collection Methodology

This study employed mixed-methods approach to capture both historical and current insights into working conditions in the waste management sector across Hasbaya, Chebaa, and Rachaya El Foukhar. The methodology was designed to ensure inclusivity, data triangulation, and comparability with the previous 2024 assessment conducted by MORES s.a.r.l.

The data collection process was conducted in two distinct phases:

- **Baseline Phase (May–July 2024):** MORES s.a.r.l. carried out qualitative data collection through field visits, key informant interviews (KIIs), and stakeholder engagement activities. Stakeholder mapping took place on May 23, 2024, in coordination with CELIM and CESVI, identifying key individuals from municipalities, NGOs, private sector actors, and relevant ministries.

- **Current Phase (May 2–May 23, 2025):** A consultant conducted a refreshed round of data collection, using updated tools to gather comparable data from the same three municipalities. This enabled a comparative analysis between the baseline findings (September 2024) and the current assessment.

A mixed-methods approach was employed, including one-on-one meetings, field visits, phone interviews, key informant interviews (KIIs) with identified stakeholders (*see Chapter 3 – Stakeholders List*) and semi-structured interviews with operational staff such as waste collectors, drivers, and dumpsite personnel. Field observations were carried out at project area infrastructure points (dumpsites and collection hubs) and, when in-person visits were not feasible, outreach was conducted remotely, primarily via phone calls.

This methodology ensured inclusivity, allowed for data triangulation, and supported the development of a shared understanding of existing gaps and opportunities to improve working conditions in the regional waste sector.

The questionnaire developed under Task 2 was primarily used with operational staff. In parallel, focused questionnaires related to waste working conditions were adopted to key stakeholders, such

as mayors and solid waste experts, with responses documented in the form of Minutes of Meetings.

Moreover, a comparative analysis was conducted between the September 2024 assessment and the current assessment under **Chapter 4 - Waste working conditions outcomes comparison**.

An overview of the data collection methodology is summarized in **Figure 1**.

4.1 DATA COLLECTION CHALLENGES

Several challenges and limitations were faced during the data collection process, largely due to logistical constraints arising from the ongoing conflict in southern Lebanon and the timing of municipal elections. These events shifted stakeholder priorities, making the project topic a secondary or even tertiary concern, as many were preoccupied with either the consequences of the conflict or preparations for the elections. **Table 1** summarizes the identified challenges and limitations, their potential impact on the research, and the mitigation strategies employed to address them.

Table 2:
Data Collection encountered limitations

Limitation	Impact	Mitigation Strategy
Restricted Access to Dumpsites in Rachaya El Foukhar and Chebaa	While in-person discussions with municipal and key focal points were possible, visits to the dumpsites were not feasible due to their remote locations and elevated safety risks caused by the ongoing conflict.	Conducted on-site interviews where possible and used phone interviews as mitigation strategies where locations were not considered secure.
Reliance on Phone Interviews	Phone interviews lacked the depth and contextual richness of in-person discussions.	To compensate for the limited depth of phone interviews, the assessment targeted many of the same individuals from the previous study to maintain continuity and familiar insights.
Timing of Municipal Elections	Stakeholder engagement was deprioritized as many local actors were focused on election-related matters, reducing responsiveness and availability for interviews.	Adjusted communication strategies and timelines to accommodate stakeholders schedules and maximize participation whenever possible.

Limitation	Impact	Mitigation Strategy
Ongoing Conflict in South Lebanon	The deteriorating security situation caused logistical disruptions, restricted mobility, and posed safety threats, limiting the ability to access certain areas and conduct extended fieldwork.	Used a focused and efficient fieldwork approach to gather quality data in a short amount of time.
Hesitance Among Waste Workers to Share Personal Information	Waste workers showed increased reluctance to participate or provide their names compared to previous assessment, due to fear of repercussions and insecurity.	Avoided taking photos or recording names to protect privacy, emphasized confidentiality, and reassured participants about the anonymity of their input.
Low Prioritization of Waste Sector Issues Amid Crisis	Due to the ongoing conflict and urgent local needs, waste management issues were often viewed as secondary.	Framed the study as part of a broader effort to inform future support and recovery planning.

In addition to the challenges outlined in **Table 1**, the three target towns continue to face persistent issues, particularly related to dominant informal employment. This causes job insecurity and a lack of access to social and employment benefits. Most waste sector workers still earn less than \$475 per month and regularly work beyond standard hours (with no improvement in the horizon due to the conflict that severely impacted the area, improving workers' conditions and addressing solid waste management were deprioritized, as the focus shifted toward reconstruction efforts and other humanitarian urgent needs.).

The distribution of essential Personal Protective Equipment (PPE) remains inconsistent if not absent, and awareness of legal working hours and workers rights is not addressed. These conditions have been worsened by the ongoing conflict with Israel, which has intensified instability and restricted mobility, which made efforts to improve waste working conditions even more challenging.



5 Stakeholder list

The selection focused on stakeholders who have responsibilities and capacities in handling waste workers. This assessment was informed by a set of parameters designed to evaluate power, interest, and legitimacy within waste workers activities in the project area. To analyse the stakeholders specifically for waste workers conditions planning in Hasbaya, Rachaya el Foukhar and Chebaa, the research focused on local and national stakeholders. Nevertheless, not all identified stakeholders were reachable and some changes had to occur.

To ensure that all aspects of waste workers conditions are adequately addressed, the consultant insisted to engage stakeholders from all three categories: Primary, Secondary, and Interest and Knowledge⁴ (Task II –Table 9: Categorized stakeholders).

4. Primary stakeholders are directly involved in waste management (municipalities, waste workers) and have high power, interest, and legitimacy, Secondary stakeholders support or influence the system (donors, private sector) with moderate power and interest and Interest and Knowledge stakeholders include NGOs or academics who may not have power or formal authority but offer valuable insights.

This active engagement allowed to capture diverse perspectives and leverage each group's role in the waste management ecosystem.

The Stakeholder Engagement Plan (SEP) outlines the approach for engaging relevant stakeholders throughout the assessment process. It ensured that collected data was inclusive, and non-discriminatory. The planned SEP and the initially identified stakeholders have proven effective, as only limited changes were required throughout the process (highlighted in **Green** in the below table). This reflects that the adopted approach was effective.

Table 3:
Actual Outreached Stakeholders List

#	Name	Role	Entity	Stakeholder Category	Level*	Contact	Status	# People interviewed
1	Mr. Bassam Sabagh	SW focal point	MoE	Primary	6	+961 3 646 171	Interview by phone (22/05/2025)	1
2	Dr. Michel Kfoury	Public Health focal point	MoPH	Primary	6	+961 3 620 615	Interview by phone (04/05/2025)	1
3	Labib El Hamra	Mayor	Hasbaya Municipality	Primary	All	+961 3 343 018	Regeusted to meet with Shadi Nammour	0
4	Salim Youssef	Mayor	Rachaya el Foukhar Municipality	Primary	All	+961 3 498 251	Met with Vice Mayor instead - Pierre Atallah + 1 worker from Rachaya el Foukhar (17/05/2025)	2
5	Mohammad Saab	Mayor	Chebaa Municipality	Primary	All	+961 3 828 733	Interviewed in person + 1 chebaa waste workers (18/05/2025)	2
6	Alii Markiz	Waste Truck Driver	Chebaa Municipality	Primary	2,3 and 4	+961 3 671 698	Interview in person (18/05/2025)	1
7	Shadi Namour	Environment and Social Works Committee	Hasbaya Municipality	Primary	All	+961 3 266 182	Interview in person + 3 from Hasbaya waste workers (17/05/2025)	4
8	Ahmad Sweid	Dumpsite Responsible	Hasbaya Municipality	Primary	4 and 5	+961 78 908 905	Interview in Person + 2 waste workers (17/05/2025)	3
9	Faissal Al Hamra	Waste Collector	Hasbaya Municipality	Primary	2 and 3	+961 71 427 055	Met with another worker during Mr. Shadi Namour interview	0
10	TBD	Dumpsite Waste worker	Hasbaya Municipality	Primary	4 and 5	TBD	Met 2 workers in person on (17/05/2025)	2
11	Dalilda Sneider	Researcher with a focus on waste workers conditions/ Green USEK coordinator	Academic	Interest and Knowledge	1 to 5	+961 3 591 772	interview by Zoom (23/05/2025)	1

* **Waste Management Supply chain level [1]**

#	Name	Role	Entity	Stakeholder Category	Level*	Contact	Status	# People interviewed
12	Wissam Al Hayek	South Qaemaqam (Marjaeyoun and/or Hasbaya)	Qaemaqam south	Secondary	6	TBD	Contacted via Hasbaya Environment Focal Point	1
13	Labib El Hamra	Head of Hasbani Union	Head of the Union	Primary	6	+961 3 343 018	No role in waste management as Union	0
14	Mohammad Saab	Head of Ar-quoub Union	Head of the Union	Primary	6	+961 3 828 733	Interview in person (18/05/2025)	0 Considered as 0 to avoid duplication of interview
15	Zaher Ghosn	NGO director	Khalil Foundation	Interest and Knowledge	1 to 5	+961 3 519 111	Interview by phone (17/05/2025)	1

★ **Waste Management Supply chain level [1]**



As a final result of the stakeholder engagement and data collection activities, a total of **19 individuals were engaged** through structured interviews and field visits across the municipalities of Hasbaya, Chebaa, and Rachaya el-Foukhar.



©Shutterstock (Image ID: 193847562)

6 Waste Working Conditions Outcomes Comparison

The Lebanese Labor Code⁵ of 1946 remains the primary legislation governing employment relationships, outlining the legal framework for wages, contracts, working hours, and termination procedures. Despite its age, it still forms the backbone of labor law in the country. Lebanon is still a signatory to several core International Labour Organization (ILO) conventions, which reinforce national protections and promote fair and decent work standards.

Moving forward, the findings from the data collection process on waste workers conditions and their conformity with Lebanese labor law are organized into three main sections as in the previous assessment: 4.1) legal conformity, 4.2) SWOT analysis, and 4.3) RACI matrix.

5. <https://www.labor.gov.lb/Temp/Files/574b61dd-1233-4507-9da1-d4a3e3a6129a.pdf>

6.1 LEGAL CONFORMITY

This section presents the conformity level of the waste workers' conditions in the concerned areas with the Lebanese labor law (law no. 1946) and its amendments. It provides an additional layer of comparison based on the impact of the Israeli escalations and recent political developments in the country. It presents how well current practices at the concerned areas align with legal standards and highlights gaps between legal requirements and on-the-ground realities in Hasbaya, Chebaa, and Rachaya El Foukhar. The results of the assessment are compiled in Table 4. Changes before and after the escalation in conflict and recent political developments are highlighted in **green cells**, with previous results indicated in parentheses for comparison.

Table 4:*Waste Workers Current Conditions in relation to Lebanese Labor Law and previous assessment*

A Applied
 NA Not Applied
 PA Partially Applied

Minimum Age	
Lebanese Labor Law (Law no. dated 1946 amended lastly by law 207 in 2000)	<ul style="list-style-type: none"> Article 16: Specifies conditions under which individuals convicted of certain crimes cannot host adolescent interns. Article 21: Regulates work for adolescents under 18 years old. Article 22: Prohibits employment of adolescents under 13 years old and requires a medical examination before employment.
International Labor Organization (ILO) Labor Law	Minimum Age (Non-Industrial Employment) 1932 (No. 033): A minimum age of 14 years old for non-industrial jobs, with some key exceptions: Children over 12 years old can be employed in light work that meets specific criteria
Rachaya Al Foukhar	A
Chebaa	A
Hasbaya	A
Training and certification	
Lebanese Labor Law (Law no. dated 1946 amended lastly by law 207 in 2000)	<ul style="list-style-type: none"> Article 18: Employer obligation to provide comprehensive training to interns and issue a certificate of competence at the end of the internship. Article 36: Ensures all employees receive a weekly uninterrupted rest period of at least 36 hours.
International Labor Organization (ILO) Labor Law	Human Resources Development Convention, 1975 (No. 142): Mandates member states to establish comprehensive policies and programs for vocational guidance and training linked with employment. Labour Administration Convention, 1978 (No. 150): Outlines standards for national labor policies and the structure of labor administration. It emphasizes involving employers' and workers' organizations in policy-making, establishing comprehensive administration systems, and ensuring qualified and independent staffing with adequate resources.
Rachaya Al Foukhar	NA
Chebaa	NA
Hasbaya	NA

Working Hours

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

- **Article 31:** Sets maximum weekly working hours (48 hours) for various categories of workers, excluding agricultural workers.
- **Article 32:** Allows for reduction of working hours for strenuous or unhealthy tasks by ministerial decree and possible increases in specific circumstances like restaurant work.

International Labor Organization (ILO) Labor Law

- Reduction of Hours of Work (Public Works) Convention, 1936 (No. 51)**
- Limits workweeks to 40 hours in public works.
 - Allows exceptions for emergencies and certain special projects.

Rachaya Al Foukhar

NA

Chebaa

NA

Hasbaya

NA

Annual Leave and Sick Leave

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

- **Article 39:** Grants employees with one year of service a 15-day annual leave with full pay, and prohibits dismissal or notice during this period.
- **Article 40:** Provides sick leave entitlement based on length of service with full or half pay.
- **Article 41:** Specifies procedures for sick leave certification and employer rights to verify medical certificates.

International Labor Organization (ILO) Labor Law

- Holidays with Pay Convention (Revised), 1970 (No. 132):**
The convention sets a **minimum standard of three working weeks** for one year of service. However, member states can establish a longer minimum duration in their declaration.

Rachaya Al Foukhar

NA

Chebaa

NA

Hasbaya

NA

Minimum Wage

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

- **Article 44:** Ensures minimum wage is sufficient for employees' basic needs and not below the official minimum wage.
- **Article 45:** Establishes commissions to determine and enforce the minimum wage through collaboration between government, employers, and employees.

International Labor Organization (ILO) Labor Law

- Minimum Wage Fixing Convention, 1970 (No. 131):**
Requires member states to establish a system of minimum wages covering all appropriate groups of wage earners. These minimum wages must be legally enforceable and not subject to reduction.

Rachaya Al Foukhar

NA

Chebaa

NA

Hasbaya

NA

Occupational Health and Safety

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

Article 62: Prescribes general safety measures for all establishments, with specific provisions for different professions or types of work as needed.

**International Labor
Organization (ILO)
Labor Law**

Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187):

- National framework for continuous OSH improvement.
- Develops national policy, system, and program.
- Promotes preventative safety & health culture.

Occupational Safety and Health Convention, 1981 (No. 155):

- Applies to all branches of economic activity (with some exceptions).
- Requires establishing a national policy, system, and program for OSH.
- Emphasizes employer responsibility for workplace safety and worker health.
- Encourages worker participation and training in OSH.

Rachaya Al Foukhar

NA

Previously PA

Chebaa

NA

Hasbaya

PA

Labor Organizations

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

Article 83: Allows employers and employees in each profession to form special unions with legal status to represent their interests.

**International Labor
Organization (ILO)
Labor Law**

Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87):

Guarantees workers and employers the right to establish and join organizations of their choice without prior authorization. It prohibits interference with these organizations and ensures their freedom to form constitutions, elect representatives, and engage in activities.

Rachaya Al Foukhar

NA

Chebaa

NA

Hasbaya

NA

Placement Offices

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

Article 110: Mandates municipalities to establish placement offices under government control, with regulations for private placement offices.

**International Labor
Organization (ILO)
Labor Law**

Employment Service Convention, 1948 (No. 88):

Requires member states to establish and maintain a free public employment service to facilitate efficient labor market operations, promote full employment, and ensure stable employment conditions through cooperation with public and private entities, alongside comprehensive vocational guidance and training measures.

Rachaya Al Foukhar

NA

Chebaa

NA

Hasbaya

NA

Gender Discrimination

Lebanese Labor Law
(Law no. dated 1946
amended lastly by law
207 in 2000)

Article 26: Prohibits gender discrimination by employers in various aspects of employment including job type, wages, promotion, training, honors, and attire.

**International Labor
Organization (ILO)
Labor Law**

Equal Remuneration Convention, 1951 (No. 100):

Mandates that men and women receive equal pay for work of equal value, enforced through national laws, collective agreements, and objective job evaluation methods.

Rachaya Al Foukhar

NA

Chebaa

NA

Hasbaya

PA

Previously

A

6.2

SWOT ANALYSIS RESULTS

The SWOT analysis conducted aims to evaluate the current conditions faced by waste workers in Chebaa, Hasbaya and Rachaya el Foukhar in comparison with previous SWOT in order to identify any new trend of major change. The results were mainly related to the work environment, safety, and overall job satisfaction of workers. By assessing the strengths, weaknesses, opportunities, and threats associated with waste management practices in the concerned areas, this analysis allowed to identify key and new areas for improvement and potential strategies to enhance the working conditions of waste workers. Changes due to the conflict and recent political developments are written blue.

Table 5:
SWOT analysis results

Strengths

- Experienced workforce.
- Diversified sales approach of sorted items (i.e. recyclables).
- Improved infrastructure for sorted recyclables, such as the use of presser and shredders.
- Flexibility to fill service gaps left by local authorities (municipalities and local NGOs).
- NGO/CSO coordination: Established networks continue to bridge gaps between municipalities and operators, ensuring continuity of essential services despite broader disruptions.

Weaknesses

- Low wages and benefits (which discourages Lebanese workers).
- Limited use of personal protective equipment (PPE) which leads to increased safety hazards.
- Lack in necessary waste collection equipment, particularly bins and dedicated vehicles.
- Organic waste remains unsorted, reducing income from the sale of sorted items.
- Dependence on external funding and partnerships.
- Poor working conditions and limited legal rights (elaborated on below)
- No reconstruction was conducted after the escalation in fighting: the area is inundated with construction and demolition debris, overwhelming existing processing capacity.
- Population displacement: Many residents have not returned, shrinking community engagement in waste initiatives.
- High-risk dumpsite locations: Primary disposal sites fall within security-sensitive zones, posing daily threats to workers safety.
- Enduring informality: Waste workers still lack formal contracts, social benefits, and reliable PPE provision – there is no “war urgent safety plan” let alone other risks.

Opportunities

- Partnerships with NGOs and youth groups can help in revitalizing community engagement.
- Government support for self-sufficiency could include investment in waste management.
- Existing expertise and the potential for training programs on related health hazards, use of PPE, and the general improvement of workers' efficiency and safety.
- Scaling successful pilot projects from experiences in other locations.
- Targeted National Integrated Solid Waste Strategy and Construction & Demolition waste management projects: International donors can fund specialized programs to develop Local Operational Management Plan in related Service Zones to sort, recycle, and safely dispose of demolition debris, creating new jobs with better working conditions.
- Diaspora engagement: Lebanese expatriates could back community-led initiatives, financing waste workers' salaries and other infrastructure that would make their job safer (for instance, in Hasbaya and Rachaya El Foukhar, the diaspora played an active role in humanitarian support during the 2024 conflict and continues to back development projects by providing financial assistance and supporting local development projects).

Threats

- Health and safety risks from handling hazardous and infectious waste.
- Limited finances and high operation costs.
- Security threats at dumpsites: Persistent regional tensions make dumpsite access unpredictable and dangerous, risking injury or shutdowns.
- Widening service gaps: With fewer residents and no reconstruction, revenue streams are collapsing, making it harder to fund regular collection and maintenance.

This SWOT assessment reveals a shift in the operating environment for waste workers in project towns. Whereas pre-war analyses celebrated a range of sector assets such as skilled labor, diversified recycling income, and emerging infrastructure; today the major enduring strength is the coordination capacity of NGOs and CSOs, whose networks sustain essential services in spite of security constraints. At the same time, long-standing weaknesses have been radically increased by conflict. Informality persists unchecked: no formal contracts, social benefits, or reliable PPE distributions materialized.

Yet, the post-war period also unveiled some defined opportunities, such as the adoption of the "National Integrated Solid Waste Strategy" by Council of Ministers in December 2024, which can be leveraged to establish local operational management plans to address the Construction and Demolition waste management plans (check Section 6T.2.1) and create a comprehensive formal waste working conditions planning phase.

“

Sustainable improvements

in waste-worker conditions will depend on an integrated approach that centralizes NGO coordination with the Ministry of Environment and the Council for Reconstruction and Development, as well as diaspora involvement.

6.2.1 Standard Operating Procedures for Post Disaster Rubble Management

In response to the growing challenges caused by 2024 conflict which left behind large amounts of debris and rubble, the Ministry of Environment, in collaboration with national and international partners, is publishing the Standard Operation Procedures for Post Disaster Rubble Management⁶. To ensure a coordinated, environmentally sound response, the United Nations Debris Task Force, along with UNDP, UN Habitat and UNOPS, has developed the Debris Management Framework (DMF) which adheres to international best practices. These Standard Operating Procedures (SOPs) build upon the DMF by detailing all facets of debris pre processing, including safety protocols, regulatory compliance, and stakeholder responsibilities. They form Volume 1 of a three- part series (Volume 2 – Debris Processing; Volume 3 – Quarry Rehabilitation), and integrate circular economy principles through prioritizing waste reduction, recycling, and reuse, and promoting resource efficiency and environmental protection.

This SOP addresses debris pre processing measures in two implementation phases: (1) site assessment and safety preparation, incorporating mine action coordination managed by the Lebanese Armed Forces and the Lebanon Mine Action Center, and (2) clearance operations. It does not cover heritage sites, which remain subject to the exclusive procedures of the Ministry of Culture.

6. United Nations Development Programme. 2025. Standard Operating Procedures for Post Disaster Rubble Management – Lebanon. Beirut: UNDP Lebanon. June 5.

6.3

RACI MATRIX RESULTS

The RACI matrix proved necessary to delineate the responsibilities of multiple stakeholders, including government bodies, NGOs, private partners, and community groups in relation to various waste management tasks and activities. It outlines who is Responsible (R) for carrying out each task, who is Accountable (A) for the overall outcome, who should be Consulted (C) for their expertise or feedback, and who needs to be Informed (I) of progress or outcomes.

The consolidated RACI matrix delineated the roles and updated some roles based on the various stakeholders in managing waste and improving worker conditions. Key changes and rational behind them are explained further below.

The updated RACI highlights a systemic gap: service-zone municipalities, despite their legal duty under Law 80/2018 and the National Integrated Solid Waste Management Strategy (NISWMS, Council of Ministers Decision No. 94/2024), are formally “Responsible” for wage negotiations, PPE provision, and contract formalization, yet exercise these roles only marginally. Accountability now rests with the to be established National Waste Authority (NWA) and the Ministry of Labour (MoL), while NGOs and waste-worker cooperatives provide critical “Consulted” input, and workers, donors, and community groups are kept “Informed.” In practice, municipalities have not fully activated their mandates under these frameworks, undermining both service quality and waste-worker conditions.

Table 6:
Compiled RACI Matrix

Task / Activity	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Negotiating wage increases	Service-Zone Municipalities & Operators	National Waste Authority (NWA) & Ministry of Labour (MoL)	Worker Cooperatives/ NGOs, Ministry of Finance	Workers, Donors
Ensuring legal wage compliance	Ministry of Labour (MoL) & Internal Security Forces	Ministry of Labour (MoL)	National Waste Authority, Municipalities	Operators, Workers, NGOs
Union representation rights	Ministry of Labour (MoL) & National Waste Authority	Ministry of Labour (MoL)	Worker Representatives, Human Rights Organizations	Operators, Workers
Advocating for policy changes	NGOs, Waste-Worker Cooperatives	National Waste Authority	Ministry of Environment, Ministry of Finance	MoL, Municipalities, Workers
Providing work-assurance & safety measures	Operators in coordination with Local NGOs	National Waste Authority	Ministry of Environment, Ministry of Health	Workers
Organizing health & safety training	NGOs & Service-Zone Municipalities	Ministry of Labour (MoL) & National Waste Authority	Ministry of Environment, Ministry of Health	Workers, Community Groups
Provision of PPE & safety equipment	Operators & Service-Zone Municipalities (with NGO/diaspora support)	Ministry of Labour (MoL)	Health Authorities, NGOs	Workers, Local Community
Establishing formal employment contracts	Service-Zone Municipalities & Operators (under PPP or cooperative models)	National Waste Authority & Ministry of Labour (MoL)	NGOs, Labour Inspection Authority	Workers

To bridge this divide, the full implementation of Law 80/2018 and the NISWMS is essential. Article 11 of Law 80/2018 obliges municipalities to draft local waste management programs, aligned with the December 2024 strategy, and submit them to the Ministries of Environment and Interior within three months. Under the RACI, municipalities should lead these drafts (R), liaise with the NWA and MoL for approval (A), and integrate NGO and cooperative feedback (C) to ensure actionable plans that secure formal employment terms and safety measures. Article 20 assigns collection and transport duties to municipalities and licensed contractors, who must comply with Environmental Protection Law No. 444/2002 and Decree 8213/2012 standards.

Here, municipalities must oversee operators (R) and enforce compliance via the NWA (A), ensuring every worker has proper PPE, training, and a formal contract as stipulated in the revised matrix.

Furthermore, the NISWMS mandates clear service-zone management plans, dedicated funding mechanisms (including extended producer responsibility and user fees), and strict occupational health and safety protocols. Municipalities must incorporate these provisions into their local programs to transform legal requirements into tangible improvements for Lebanon's waste workforce.



7 Informal Workers Functional Breakdown

Informal waste workers constitute a critical functional layer within area waste management systems, performing essential tasks in material recovery, sorting, aggregation, and transport that support both recycling value chains and municipal operations.

Informal workers perform multiple essential functions in the SWM chain:

1. **Primary Recovery:** Collect plastics, paper/cardboard, glass, metals, wires, batteries, and other valuables from streets, bins, and dumpsites.
2. **Sorting & Aggregation:** Manually sort materials for local factories or brokers, providing essential feedstock for recycling.
3. **Transport & Temporary Storage:** Small-scale transport and storage at collection points or mini-plants.
4. **Indirect Municipal Support:** Reduce landfill volumes and associated costs, acting as an unpriced municipal service.

Informal Recycling Hierarchy Scavenging is a whole industry by itself. It is a well-organized business with a set hierarchy controlled by a few entrepreneurial individuals directing a group of scavengers. The scavenging hierarchy starts and ends at the recycling plant levels.

Scavengers who work for collection points and who push carts are called “Arabatji” or cart pusher. They collect recyclable items, and whatever they can find in the curbside bins. They work for the collection point owners and are paid weekly or monthly based on the amount of materials they collect. Other kinds of scavengers are independent individuals who work independently. They often carry bags and collect what they consider to be valuable items. This category of scavengers is called “Tabbeeb”. They collect mainly clothes, shoes, ornaments, lamps, and kitchenware. A third category of scavengers operates as freelance by roaming around collecting the same type of items as the Arabatjis.

They sell their materials to smaller collection point operators or directly to recycling plants. Most of these scavengers are Lebanese from very low-income socio-economic background or foreigners such Syrians, Sudanese and Egyptians.

In the project areas, informal waste workers operate primarily at municipal recycling and sorting facilities, performing essential functions in recovery, sorting, transport, and indirect municipal support.

The following sections present systematically collected empirical data, highlighting the prevalence of informal employment, occupational hazards, financial and institutional challenges, and the compounded effects of the 2023–2025 conflict on waste management workers in Hasbaya, Chebaa, and Rachaya el-Foukhar. These findings provide the evidentiary basis for understanding current labor conditions and the operational dynamics of local solid waste management systems.

7.1

INFORMAL EMPLOYMENT AND PRECARIOUS WORK

Based on the KIs held during the data collection period in May 2025, informal employment was observed in the three areas targeted by the project.

- In **Hasbaya**, informal employment is widespread, with 10 out of 11 workers engaged in non-formal labor. The only waste worker with an employment contract is the manager of the waste disposal site located in Hasbaya who has a leasing contract from the municipality (noting that the official contract has expired and they were then waiting for the municipality elections in May to draft a new agreement). This lack of formal contracts leaves workers vulnerable to job insecurity, exploitation, and a lack of social benefits.
- **Chebaa** presents a similar situation where all respondents work informally without a contract. Based on the mayor meeting, there are around 40 waste workers in Chebaa: 30 for street sweeping and collection, 2 as truck drivers, and 8 bobcat drivers at the dumpsite.

- In **Rachaya El Foukhar**, on paper, a single Syrian worker is responsible for all waste management tasks including street sweeping. In reality, this worker is supported by his family (four to six members), yet the municipality only pays the equivalent of one wage.

The lack of legal employment protections significantly undermines workers' ability to negotiate fair wages and conditions, leaving them vulnerable to low pay. The absence of formal employment agreements further compounds their job insecurity and restricts access to essential social benefits. Moreover, this informal setup reveals a broader issue of financial instability and workload imbalance.

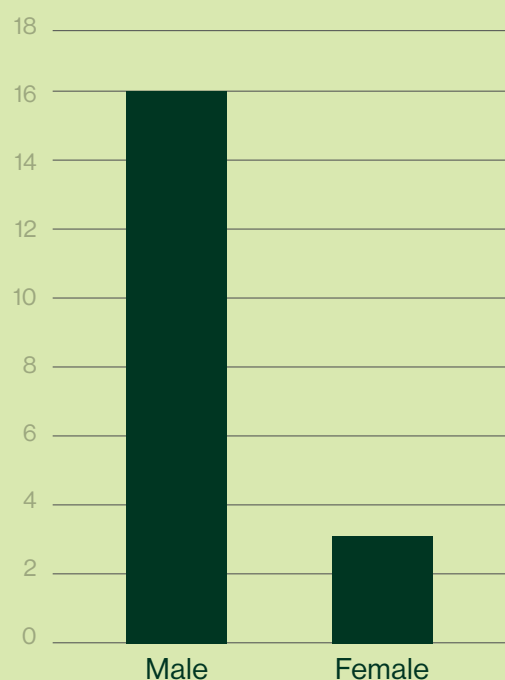


Figure 2:
KIs gender distribution

7.2

HEALTH AND SAFETY CONCERNS

Across Hasbaya, Chebaa, and Rachaya el-Foukhar, waste workers face serious and often hazardous working conditions. Common challenges include the lack of regular safety training, limited or inconsistent access to personal protective equipment (PPE), and poor access to medical care. In many cases, workers rely on used or discarded PPE, if any, increasing their vulnerability to illness and injury. These shared deficiencies reveal an ongoing gap in occupational health and safety across the three municipalities.

However, specific risks are even more pronounced in Chebaa and Rachaya el-Foukhar. In both towns, the proximity of waste disposal sites to areas previously targeted during last conflict (less than 1 km away) poses significant physical and psychological dangers to workers. The unsafe location of the dumpsites, coupled with the shocking effect of nearby attacks, has forced some workers to relocate for their own safety.

7.3

FINANCIAL STRAIN AND WORKING CONDITIONS

In Hasbaya, financial hardship among waste workers remains severe. All workers earn less than \$475 per month, with some receiving as little as \$150 to \$200 (waste workers at dumpsite). These low wages, coupled with long working hours, inexistent paid leave, and lack of social security place a heavy burden on worker morale and livelihoods. Before the escalation of Israeli attacks in the South, the Hasbaya dumpsite operator was the only individual earning over \$1,000 monthly through the sale of sorted recyclables. However, due to security concerns, transport routes were cut off and buyers stopped collecting from the area. With facilities in Nabatieh and Sour in southern Lebanon out of service, the operator's income collapsed, leaving him in debt.

In Chebaa, waste workers face similar financial challenges. The heightened security risks during recent conflict meant that workers had to stop work on certain days. This led to fears of salary cuts despite the strained conditions. The combination of low pay, extended working hours, and the absence of any job security or social protection has created an environment of chronic financial stress and instability.

The financial situation in Rachaya el-Foukhar is particularly precarious. One single waste worker is responsible for managing the entire local waste system, earning less than \$475 in base salary. Additional income comes from selling recyclables, an unreliable and inconsistent revenue stream that halted during conflict.



Figure 3:

Waste accumulation – unbearable smell – in Hasbaya Site

Figure 4:

Hasbaya waste collection truck using the dumpsite dirt road (no other road) – long working hours, especially during holidays as waste generation increase.



7.4

COMMUNICATION, FAIR TREATMENT, AND AWARENESS

The assessment findings across Hasbaya, Chebaa, and Rachaya El Foukhar reveal major gaps in workers' awareness of their rights, inconsistencies in communication structures, and a lack of formal employment mechanisms. These issues are further compounded by the recent conflict, which has deprioritized waste worker conditions amid more pressing needs for reconstruction and recovery.

Town	Communication & Awareness	Employment Structure & Treatment
Hasbaya	Workers feel comfortable communicating with supervisors, indicating an open communication channel	Despite this, workers lack awareness of legal working hours and basic labor rights, revealing weak enforcement and knowledge of labor laws.
Chebaa	No specific communication issues reported, but overall structure suggests informal and inconsistent communication practices.	The lack of formal contracts and regulatory oversight has resulted in poor working conditions and a high risk of exploitation.
Rachaya El Foukhar	No clear insights were collected regarding communication channels.	Waste management relies entirely on a "single worker" paid informally, with no legal safeguards.

Regardless of the above conditions, the recent conflict introduced an unprecedented layer of insecurity across the three towns.

Interviewed stakeholders often appeared in psychological distress, and the issue of waste workers' conditions was repeatedly sidelined. The priority has shifted toward infrastructure reconstruction, restoring services, and regaining normalcy.

This shift highlights the fragility of the solid waste management sector, where systemic reforms must now integrate not only labor protections but also strategies for post-conflict recovery and psychosocial support. Ensuring fair treatment of waste workers in such a volatile environment calls for both immediate and long-term policy action.



7.5

WASTE MANAGEMENT SYSTEM EFFECTIVENESS

Although the solid waste management systems in Hasbaya, Chebaa, and Rachaya El Foukhar are perceived by some as functional, particularly because waste does not accumulate near households, the systems remain fundamentally fragile. Their perceived effectiveness masks deeper operational and financial shortcomings.

Across all three towns, waste management services are sustained through limited municipal budgets and occasional donor support, with no direct taxation or consistent income streams dedicated to funding these services. This financial model is unsustainable and restricts any improvements in worker wages, proper waste equipment maintenance, and any infrastructure development.

- In **Hasbaya**, perceptions of system effectiveness are divided. While waste collectors consider the system partially effective, sorting workers at the dumpsite express dissatisfaction, pointing to gaps in infrastructure, equipment, and working conditions.
- **Chebaa** is hampered by a lack in fundamental infrastructure, including sorting facilities and reliable collection equipment. These deficiencies severely limit the town's ability to process waste effectively or sustainably. This led to waste accumulation between households during the conflict as there was no possibility to conduct waste management activities.

- In **Rachaya El Foukhar**, the waste management system collapse, and it was reported that the town was empty during the conflict period toward the end of 2024, with no residents at all at a certain moment. This situation underscores the urgent need for staffing, operational backup, and structural reform.

7.6

IMPACT OF THE 2023 – 2025 WAR ON WASTE MANAGEMENT WORKERS

Table 7 summarizes the key findings from Section 8 of the questionnaire, highlighting the multifaceted impact of the ongoing conflict on waste management workers, their working conditions, safety, and institutional support. It also reflects on the workers' recommendations and priorities for improving their situation during and after the conflict.

Table 7:

Impact of the 2023 – 2025 war on Waste Management Workers as Questionnaires Results

Work Disruption & Safety

Findings

- Majority experienced suspension of work, reduced hours, and increased workload.
- Increased personal safety risks and vulnerability while working near conflict zones.
- Workers with their families were displaced.

Infrastructure & Equipment

Findings

- No reported damage to waste management facilities.
- No change in access to PPE or tools (still absent)
- No reported increase in hazardous/conflict-related waste. (Chebaa C&D could not be removed waiting for the Lebanese government to provide needed support and funding.)

Institutional Support

Findings

- No introduction or changes to safety/emergency protocols. (None existent in the first place)
- No financial, medical, or food aid received from employers or municipalities. (very limited to some workers but majority did not receive any).

Worker Communication & Treatment

Findings

- Open communication reported with supervisors in some areas.
- No change in public or municipal attitudes toward workers during conflict.

Training & Capacity Building

Findings

- Strong need for crisis-specific training including safety, first aid, and handling hazardous waste.

Worker Involvement

Findings

- Majority support greater involvement in decision-making regarding work conditions and policies.



8 Waste Workers Data Collection Overview and PESTLE analysis

Lebanon's waste management workforce is characterized by significant gender disparities and geographic variations that also reflect broader socio-cultural patterns. Overall, the sector remains highly male-dominated, particularly in formal collection, transportation, and disposal roles. Women's participation tends to be concentrated in informal and low-paid jobs such as sorting and recycling activities, often carried out at home or in small-scale community settings, where they also frequently perform unpaid or under-recognized labor related to waste separation and composting.⁷

International and national frameworks are acknowledging these gaps. Lebanon's Nationally Determined Contribution (NDC⁸) process and the National Strategy for Women (2011–2021) call for gender-responsive approaches across sectors, including waste, but integration in practice is limited so far.

Regarding statistics, comprehensive gender-disaggregated employment figures specific to waste workers remain scarce. Available current data on waste workers in Lebanon highlight several important statistics and future prospects for this labor sector.

7. United Nations Development Programme (UNDP) Lebanon, Climate Promise - Lebanon Gender Analysis (Beirut: UNDP Lebanon, 2023), https://climatepromise.undp.org/sites/default/files/research_report_document/undp-ndcsp-lebanon-gender-analysis-report.pdf.

8. UN Women Lebanon, Statistical Profile, May 2024. https://lebanon.unwomen.org/sites/default/files/2024-05/gfs-31_may_2024.pdf

According to a 2020 Green Jobs⁹ Assessment report by ILO-UNDP¹⁰, there are approximately 3,400 green jobs in the Lebanese waste management sector. These jobs cover solid waste activities like collection, sorting, composting, recycling, and sanitary landfilling, as well as hazardous waste management and wastewater treatment. The majority of these workers operate under informal or precarious conditions, with limited social protections and safety measures. If planned sector developments proceed, the report estimates that between 1,900 and 2,500 new green jobs could be created by 2025.

As for this report, data collected during KIs and FGDs provide an increasingly concerning picture of working conditions across all three towns. Informal employment, low wages, long working hours, conflict damage, and inadequate safety measures are still a common thread. Table 8 provides a comparative observation of waste workers conditions in Hasbaya, Chebaa, and Rachaya El Foukhar. Changes related to the escalation in Israeli attacks and recent political developments are highlighted in red.

9. Green jobs are employment opportunities that contribute to preserving or restoring the environment, promote sustainable development, and reduce the negative impact of human activities on the planet. These jobs focus on activities such as renewable energy, pollution reduction, waste management, conservation, and sustainable resource use, while ensuring decent work conditions and social inclusion.

10. Johan Ahlbäck, Green Jobs Assessment in Lebanon, ILO-UNDP, 2020. <http://data.infopro.com.lb/file/GreenJobsAssessmentinLebanonILOUNDP.pdf>

Table 8:
Comparative analysis of waste worker conditions in targeted areas

Aspect	Hasbaya	Chebaa	Rachaya El Foukhar
Employment	95% informal and 5% formal	Informal	Informal
Nationality	Divided Syrians (30%) and Lebanese (70%)	Lebanese	Syrian
Gender Ratio	63.6% Men, 36.4% Women	100 % Men	100 % Men
Fair Treatment	No concerns raised	No concerns raised	No concerns raised
Salary	Below \$475 for all workers including dumpsite manager.	Below \$475 (all), significant hardship.	Below \$475 (all), significant hardship.
Working Hours	Exceed 8 hours	Currently less than 8 hours due to the low number of residents because of the south war.	Currently less than 8 hours due to low residents' rate because of the south war.
Safety Measures	PPE not respected	PPE not respected	PPE not respected
Healthcare Access	Limited, based on municipal approval of the medical case.	Limited, based on municipal approval of the medical case.	Limited, based on municipal approval of the medical case.
Knowledge of Labor Rights	Total lack of knowledge about labor rights.	Total lack of knowledge about labor rights.	Total lack of knowledge about labor rights.
Resident Participation	No participation – all initiatives are halted due to conflict.	No participation	No participation

Aspect	Hasbaya	Chebaa	Rachaya El Foukhar
Communication	Limited communication, especially during conflict – fear of losing job.	Limited communication, especially during conflict – fear of losing job.	Limited communication, especially during conflict – fear of losing job.
Vacation Days	Not respected	Not respected	Not respected
Social Security	No social security	No social security	No social security
Worker Morale	Low morale and psychological challenges due to poor working conditions and conflict.	Low morale and psychological challenges due to poor working conditions and conflict.	Low morale and psychological challenges due to poor working conditions and conflict.

8.1

POLITICAL DIMENSIONS AND PESTLE ANALYSIS

This PESTLE analysis provides an overview of the external factors influencing the conditions of waste workers in Hasbaya, Chebaa, and Rachaya El Foukhar.

Table 9:
PESTLE analysis

Political

Key Findings

- Lebanon remains governed by the Lebanese Labor Code of 1946, the primary employment legislation.
- No new ministerial decrees or decisions on OHS for waste workers issued since September 2024.
- Ongoing conflict severely limits enforcement of labor protections, especially in informal sectors.

Economic

Key Findings

- Waste workers earn less than USD 475/month, below national living wage benchmarks.
- The informal nature of work limits access to social security and formal employment benefits.
- Economic instability and inflation exacerbate workers' vulnerability.

Social

Key Findings

- Waste workers often face social stigma and marginalization.
- Limited access to healthcare and social services due to informal employment status.
- Low literacy and educational levels (and absence of capacity building programs) restrict opportunities for skills development.

Technological

Key Findings

- Minimal adoption of safety and protective technologies in waste management operations (Absence of any automation in waste management).
- Lack of training on the use of protective equipment and safe waste handling techniques.
- Limited digital infrastructure to support workers' rights or complaint mechanisms.

Legal

Key Findings

- Lebanese Labor Code outlines wages, contracts, working hours, and termination but has gaps in addressing informal waste workers.
- Lebanon is a signatory to key International Labour Organization (ILO) conventions supporting fair work standards.
- Weak enforcement mechanisms for labor law compliance in the waste management sector, especially amid ongoing conflict.

Environmental

Key Findings

- Waste workers could be exposed to hazardous materials without their knowledge due to inadequate safety measures.
- Environmental degradation linked to unmanaged waste sites impacts workers' health.
- Climate-related events (floods) further disrupt waste collection and workers' safety.

As a result of the PESTLE analysis, the improvement of working conditions for waste workers in Lebanon faces persistent obstacles rooted in political interference, financial mismanagement, and weak governance structures. The waste sector has historically been shaped by clientelism and political patronage¹¹, where contracts are awarded not based on service quality or labor rights, but on political affiliations and interests. This is reflected in Lebanon's continued reliance on the Lebanese Labor Code of 1946 and why it is placed in the Political section because it reflects the broader policy environment and government priorities rather than the specific legal provisions themselves. This highlights that the issue is about political will and decision-making around updating labor laws, rather than the existing legal framework or its enforcement, which would fall under the legal section.

Moreover, the centralization of waste management services in the hands of a few dominant actors has marginalized municipalities and hindered local efforts to ensure decent working conditions. Despite the existence of labor laws, enforcement remains weak due to limited institutional capacity and lack of political will.¹²

The ongoing economic and financial crisis has further deprioritized investment in worker protection. In the absence of sufficient funding and political commitment, worker welfare is often overlooked in favor of basic service continuity. Additionally, waste workers are not perceived as a politically influential group, contributing to their continued marginalization in policy and decision-making processes.¹³

11. LCPS (Lebanese Center for Policy Studies). (2020). *Municipal Solid Waste Governance in Lebanon: The Clientelist Trap*.

12. Human Rights Watch. (2023). *"We're In Hell": Labor Exploitation of Waste Workers in Lebanon*.

13. The Policy Initiative. (2022). *The Political Economy of Waste Management in Lebanon*.

9 Recommendations in the Target Areas

Table 10 presents the targeted recommendations designed to enhance waste workers conditions in Hasbaya, Rachaya El Foukhar, and Chebaa, drawing directly from the assessment of their collected challenges and priorities. Each recommendation is customized to tackle local issues and improve the safety, health, and well-being of these workers. The recommendations are coupled by practical steps for each town, ensuring they can be implemented effectively. The recommendations are based on the SWOT and gap analyses, the updated RACI framework and the PESTLE analysis in order to provide clear, actionable activities to enhance waste-worker working conditions.

Table 10:
Targeted recommendations

Category	Rachaya El Foukhar	Chebaa	Hasbaya
Legal & Regulatory	<ul style="list-style-type: none"> Advocate with MoE & MoL to activate Service-Zone mandates under Law 80/2018 for Drop off Center Establishment. Support passage or partial implementation of the cost recovery law to secure local financing for both operations and worker benefits. 	<ul style="list-style-type: none"> Engage needed Ministries to Finance the C&D waste management funds. Push for formal adoption of operational management plans under NISWMS (Council Decision 94/2024). 	<ul style="list-style-type: none"> Organize a briefing for municipalities on NISWMS and Service-Zone obligations. Work with National Waste Authority to fast-track Local Operational Plans for the Hasbaya service zone.
Health & Safety (HSE)	<ul style="list-style-type: none"> Rehabilitate sorting hangar access routes away from high-risk zones. Institute a “War-Urgent Safety Plan”: rapid PPE distribution, conflict-aware protocols. Coordinate with NGOs for on-site civil defense / trauma response training. 	<ul style="list-style-type: none"> Fund full PPE kits for all 40 workers (street sweepers, truck & bobcat drivers). Retrofit vehicles with safety cages and first-aid kits. Partner or develop a local clinic for urgent waste work incidents treatment. 	<ul style="list-style-type: none"> Provide ongoing PPE replenishment (gloves, masks, suits) via a pooled NGO-municipality procurement. Extend HSE training modules through the National Waste Authority.

Category	Rachaya El Foukhar	Chebaa	Hasbaya
Psychosocial & Well-being	<ul style="list-style-type: none"> Create peer-support network among neighboring zones via diaspora-funded cooperatives. 	<ul style="list-style-type: none"> Pilot a holiday bonus & recognition scheme (Eid / Christmas gift vouchers). Establish a small “rest & resilience” spots next to the dumpsite to provide a decent resting area for workers (shadow, toilet, water..). 	<ul style="list-style-type: none"> Launch post-conflict counseling for workers; integrate with MoPH outreach. Tap diaspora grants for community events honoring waste workers, boosting social value and morale.
Employment & Rights	<ul style="list-style-type: none"> Formalize contracts for all workers under a micro-cooperative model, with clear hours, wages (minimum wage), insurance. 	<ul style="list-style-type: none"> Convert informal hires into fixed-term municipal contracts, ensuring social security and paid leave. 	<ul style="list-style-type: none"> Secure renewal of the dumpsite manager’s lease contract, and extend formal agreements to all sorting staff.
Equipment & Infrastructure	<ul style="list-style-type: none"> Plan and Establish a small-scale MRF or drop-off center Supply two collection trucks and bins with color-coded sorting labels. 	<ul style="list-style-type: none"> Install source-sorting bins in each neighborhood (starting by 2 bins system. Provide new machineries safer for waste workers to operate. 	<ul style="list-style-type: none"> Upgrade dumpsite roads to allow regular truck access. Fund rental of a safe depot for workers during security escalations.
Governance & Coordination	<ul style="list-style-type: none"> Strengthen the Union of Aaqroub Municipalities to play an active service-zone oversight role in order to develop a LOMP. 	<ul style="list-style-type: none"> Clarify roles with CELIM: demand delivery of past waste characterization results and integrate into local plan. Establish a municipal-NGO coordination cell for real-time crisis response. 	<ul style="list-style-type: none"> Advocate for an emergency governance taskforce under the National Waste Authority for conflict periods. Institute an incident reporting hotline for site injuries or security incidents.
Community Engagement	<ul style="list-style-type: none"> Launch “Sort at Source” campaigns via local schools. Offer community credits (waste vouchers) redeemable for service discounts to households with $\geq 70\%$ correct sorting. 	<ul style="list-style-type: none"> Host quarterly town-hall workshops (with MoPH & MoE) to update residents on waste-worker needs and service improvements. 	<ul style="list-style-type: none"> Conduct door-to-door awareness drives on how poor sorting increases risk and cost. Leverage CSO networks to supply sorting bins and stickers, reinforcing NGO coordination strength.
Funding & Incentives	<ul style="list-style-type: none"> Tap international donors for C&D waste management pilots under NISWMS, creating formal jobs and security. 	<ul style="list-style-type: none"> Form a public-private-NGO/Company alliance: municipalities contribute in-kind (office, staff), NGOs provide grants, private sector backs equipment on lease-purchase. 	<ul style="list-style-type: none"> Introduce a conflict-response contingency fund (NGO + municipal match) to keep operations running.

Rather than a static matrix, the following explains how each town could move forward, taking into account the security risks and ongoing informality.

In **Hasbaya**, the prolonged conflict and the influx of internally displaced people have overwhelmed the single dumpsite operator and the town's largely informal workforce. Our top priority here is ensuring continuous access to quality PPE: the municipality should map and contract local suppliers, distribute monthly kits, and maintain usage logs. Closely following PPE, health and safety training must be intensified. At the same time, formalizing the informal sector through a micro-cooperative model will secure fixed-term contracts for the dumpsite team and embed benefits like paid leave and insurance.

Rachaya's single-family operation collapsed during the last conflict, exposing how fragile a one-worker system can be. Their immediate need is rehabilitating the access to sorting hangar and improving access routes away from high-risk areas. To break informality, the municipality should work with CDR/MoE to site a small-scale MRF or drop-off center and transform the family's arrangement into a formal cooperative with a clear contract.

Chebbaa's "forgotten town" status and lack of waste management infrastructure left its 40 municipal workers adrift, even as the mayor continued to pay salaries through the conflict. Here, our first priority is rolling out full PPE kits. A municipal-NGO coordination cell must establish a waste characterization report, integrate its findings into a local plan, and pilot source-sorting bins in every neighborhood. To formalize employment, the municipality should convert informal hires into fixed-term contracts with social security benefits.

Across all three towns, the emphasis has shifted from broad strategic planning to targeted, implementable steps from securing PPE and medical screenings to formalizing contracts and mobilizing community engagement. By sequencing these actions according to each town's unique vulnerabilities and by activating the mandates in Law 80/2018 and the December 2024 NISWMS decision, municipal leaders, Private NGOs, and donor partners can transform recommendations into a reality and indeed improve waste working conditions.

9.1

ENHANCING GOVERNANCE AND REGULATION IN LEBANON'S WASTE MANAGEMENT SECTOR

The governance challenges outlined in this report affect both the project area and Lebanon as a whole, impacting waste management efficiency and the protection of workers' rights nationwide. Although the MoE is responsible for national policies (check figure below), standards, and legislation, the critical National Solid Waste Management Authority (NSWMA) mandated under Law 80/2018 has not yet been established. As a result, local authorities bear primary responsibility for planning and implementing waste management services, often operating with limited resources, unclear guidance, and weak oversight. The National Solid Waste Coordination Committee (NSWCC) functions mainly in a consultative capacity without binding authority.

Decentralizing waste management to local authorities can improve responsiveness to community needs and reduce local opposition. However, governance challenges persist, including overlapping mandates, weak enforcement mechanisms, political interference, corruption, and the exclusion of grassroots and worker representation from national decision-making.

To effectively address the challenges and improve workers' working conditions, a set of governance, policy, and institutional reforms is essential. These reforms aim to empower institutions, clarify roles, strengthen accountability, and promote sustainable practices across the sector.

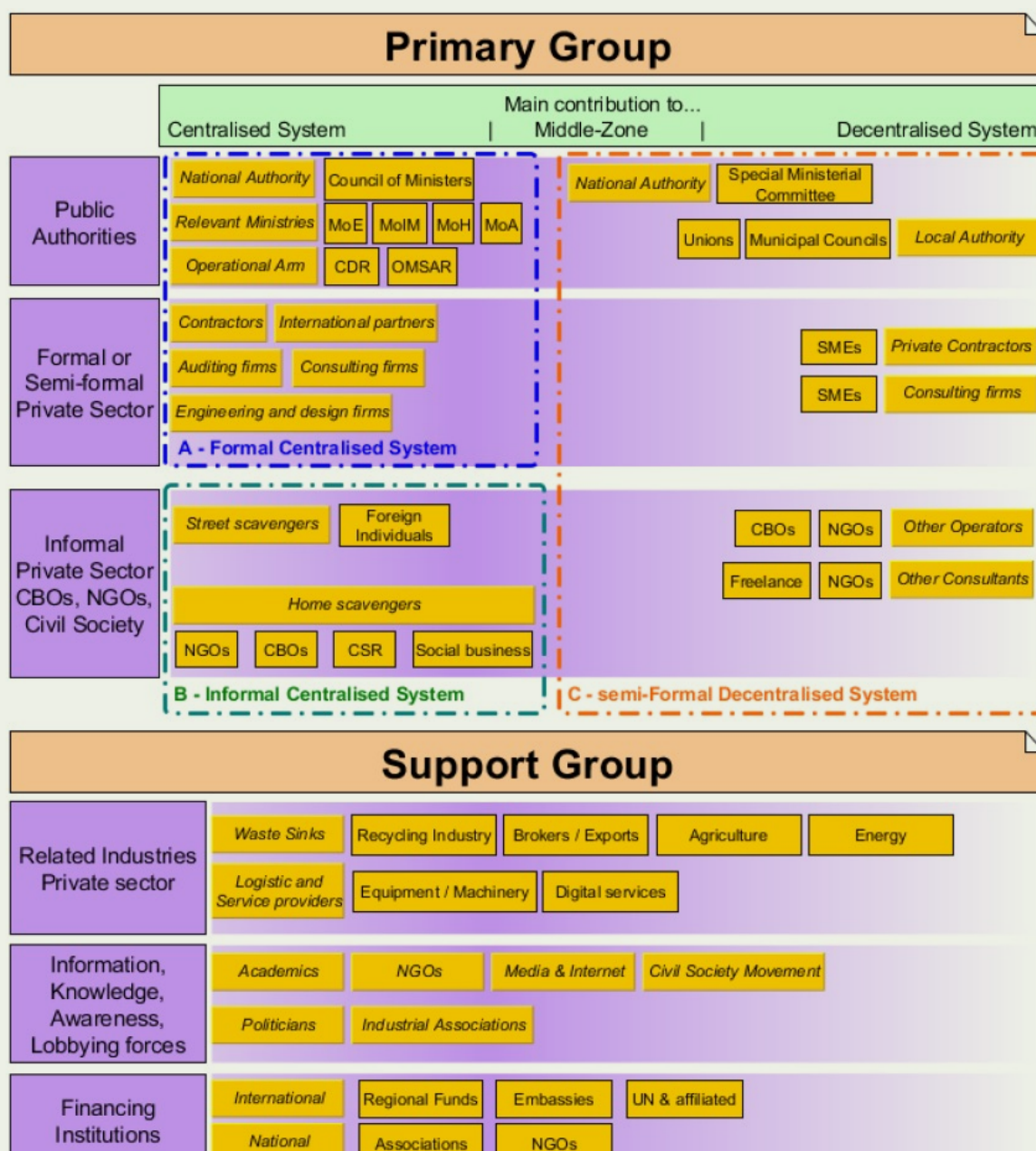


Figure 5:

Waste actor classification: (i) primary actors: dotted squares highlight sub-systems (A) Formal Centralised System, (B) semi-Formal Decentralised System, (C) Informal Centralised System; (ii) support actors, distinguish information actor, financing act.

Source: KTH Royal Institute of Technology. Solid Waste Management and Informal Sector in Lebanon. 2016.
Available at: <https://kth.diva-portal.org/smash/get/diva2%3A1139992/FULLTEXT01.pdf>

Policy, Planning, and Legislative Reforms

Recommendation

- Establish a Solid Waste Management (SWM) committee to regularly review and update laws, including risk management and adaptive measures.
- Enact laws and decrees to limit landfilling and uncontrolled dumping, and promote waste reduction and diversion.
- Promote inclusive long-term waste management planning involving authorities, private sector, NGOs, and INGOs.
- Support local authorities as key actors in strengthening public services and centralized processes.

Effect on Waste Workers' Conditions

- Ensures continuous improvement in legal protections and safety protocols, reducing workplace hazards for workers.
- Reduces workers' exposure to harmful and unsafe waste, improving health and safety.
- Engages workers' representatives, ensuring their needs and challenges are reflected in policies.
- Improves local resource allocation, oversight, and worker support mechanisms.

Leveraging Law 2018/80 Opportunities

Recommendation

- Utilize Articles 2–7 of law 80/2018 to clearly define solid waste treatment roles and enforce regulations against illegal dumping and burning.
- Apply Article 9's of law 80/2018 decentralization principle by empowering local administrations to manage solid waste.
- Strengthen monitoring, supervision, and compliance controls.
- Enforce mandatory guidelines for non-hazardous and hazardous waste management.
- Facilitate financing and incentives to generate sustainable funding for local authorities and NSWMA.

Effect on Waste Workers' Conditions

- Clarifies responsibilities and promotes safe waste handling, protecting workers from illegal and hazardous practices.
- Enables localized solutions to worker safety and rights, improving responsiveness to workers' needs.
- Increases accountability, reducing violations of workers' rights and unsafe practices.
- Limits worker exposure to dangerous materials and ensures proper safety procedures.
- Secures resources for PPE, healthcare, training, and social protections for workers.

Institutional Structure Reforms

Recommendation

- Empower municipalities under Municipal Law 1977 and related decrees to lead waste management projects.
- Support municipal capacity building and cooperation models for resource sharing and reducing inequalities.

Effect on Waste Workers' Conditions

- Increases local accountability and transparency, improving workplace conditions and reducing corruption.
- Enhances service quality and safety

The recommendations are informed by and based on insights drawn from the references listed below:

1. Republic of Lebanon, Ministry of Environment. (2020). *Final Draft National Integrated Solid Waste Management Strategy of Lebanon: Executive Summary*. Beirut: Ministry of Environment.
2. Haddad, S., & El Hajj, R. (2017). *Instruments and Spaces of Waste Governance in Lebanon*. *Geocarrefour*, 92(3), 181–189.
3. Arab Reform Initiative. (2022). *Waste Management Governance in Lebanon and Potential Reform* [Webinar]. Retrieved from <https://www.arab-reform.net>
4. Mokbel, M. (2017). *Towards Improved Governance for Sustainable Solid Waste Management in Lebanon* (Master's thesis). American University of Beirut, Lebanon.
5. Mokbel, M. (2017). *Towards improved governance for sustainable solid waste management in Lebanon: Centralised vs decentralised approaches*. Beirut: American University of Beirut.
6. Salameh, M., & Kaysi, I. (2019). *Towards improved governance for sustainable solid waste management in Lebanon: Centralised vs decentralised approaches*. *Waste Management & Research*, 37(6), 627–635. <https://doi.org/10.1177/0734242X19835268>
7. World Bank. (2023). *Lebanon Solid Waste Roadmap 2023-2026: Towards an Integrated Solid Waste Management System*. Washington, DC: World Bank Group.
8. Ministry of Finance, Republic of Lebanon. (2024). *Waste Management Plan (WMP)*. Beirut: Ministry of Finance.



©Shutterstock (Image ID: 1823542034)

10 Roadmap for Improving Waste Workers Conditions

The following roadmap outlines a phased approach to improving the working conditions of waste workers across Hasbaya, Rachaya, and Chebaa. It organizes key recommendations into short, medium, and long-term actions to ensure practical, sustainable progress. This table is developed based on the SWOT and gap analyses, the updated RACI framework, and the PESTLE analysis and from the initial 2024 MORES recommendations.

- **Short-term actions** focus on urgent needs and quick wins, such as PPE distribution, health screenings, and awareness campaigns.
- **Medium-term actions** emphasize systematizing initiatives, formalizing processes, and expanding capacity building.
- **Long-term actions** aim for full institutionalization, sustainability, and regulatory enforcement.

Recommendation	Short-Term Actions	Medium-Term Actions	Long-Term Actions
Improve access to PPE	<ul style="list-style-type: none"> Identify local PPE suppliers and start distribution- Partner with NGOs for initial PPE provision and basic training 	<ul style="list-style-type: none"> Set up ongoing PPE supply monitoring and refresher training programs 	<ul style="list-style-type: none"> Institutionalize PPE provision with municipal budget allocations
Enhance safety training	<ul style="list-style-type: none"> Develop Arabic training modules on worker rights and safety Initiate training sessions for waste workers and supervisors 	<ul style="list-style-type: none"> Collaborate with MoL and MoE to embed trainings into formal curricula Conduct refresher and advanced trainings 	<ul style="list-style-type: none"> Ensure continuous professional development programs and certification systems
Reduce health risks	<ul style="list-style-type: none"> Conduct health risk assessments- Initiate health screenings for common occupational diseases 	<ul style="list-style-type: none"> Develop local health databases- Implement preventive health checks regularly 	<ul style="list-style-type: none"> Establish permanent occupational health clinics linked to waste sector
Formalize informal Sector	<ul style="list-style-type: none"> Begin drafting integrated solid waste management (SWM) strategies Start formalizing contracts and social security coverage for workers 	<ul style="list-style-type: none"> Implement SWM plans with private sector participation Provide localized training and certification programs 	<ul style="list-style-type: none"> Fully institutionalize formal employment with job security
Public awareness & advocacy	<ul style="list-style-type: none"> Launch awareness campaigns on waste management and worker safety Organize initial community meetings and forums 	<ul style="list-style-type: none"> Expand campaigns using social media and school programs Mobilize NGOs and local influencers 	<ul style="list-style-type: none"> Establish ongoing community engagement platforms with regular public updates
Develop & enforce policies	<ul style="list-style-type: none"> Collaborate with MoE, MoL, MoPH to draft safety regulations and fair wage standards 	<ul style="list-style-type: none"> Ensure alignment with regional and national SWM strategies- Begin enforcement and monitoring 	<ul style="list-style-type: none"> Institutionalize regulations with regular compliance audits and legal reinforcement
Invest in training	<ul style="list-style-type: none"> Develop and pilot training programs focused on sorting, recycling, and composting 	<ul style="list-style-type: none"> Expand training programs and introduce new technologies relevant to each town 	<ul style="list-style-type: none"> Institutionalize capacity building with certification and continuous learning frameworks



11 Conclusion

The research shows that despite the Council of Ministers' December 2024 approval of the National Integrated Solid Waste Management Strategy, no tangible projects or service-zone plans have been launched in the areas of Hasbaya, Chebaa, and Rachaya al-Fokhar. Infrastructure remains rudimentary with few bins, no dedicated trucks, and no engineered disposal or recovery facilities, with every dumpsite lying in a security-sensitive zone where workers face daily threats. Informal employment persists; wages remain below living-cost thresholds; safety measures and PPE are inconsistent; and awareness of legal rights and health risks is virtually non-existent. The ongoing conflict has only deepened these challenges, halting all solid-waste initiatives since mid-2024 and amplifying the precarity of the workforce.

To break this impasse, existing laws and the December 2024 Strategy must transition from paper to practice. Municipalities now designated as "Responsible" in the updated RACI alongside private operators must lead the design and implementation of Local Operational Management Plans under Article 11 of Law 80/2018 in coordination with the National Waste Authority and Ministry of Labour. Concurrently, Article 20's mandates on collection standards must be enforced to ensure formal contracts, fair wages, regulated hours, comprehensive training, reliable PPE, and health insurance coverage for every waste worker. Donors and the Lebanese diaspora can leverage these legal instruments by funding C&D specific recovery projects, mobile collection hubs, and exploring worker cooperatives that pool resources and achieve decent salaries and safety equipment.

To empower municipalities to effectively finance, manage waste services and improve waste working conditions, it is essential to introduce a cost recovery law that enables them to generate sustainable revenue. By aligning targeted investments with international standards (such as those of ILO, WHO, ISWA, and UNDP) and national regulations, and by strengthening the capacity of municipalities to fulfill their roles, stakeholders can transform the waste sector into the true model of a “Just Environmental Transition.”

By mid-2024, the conflict froze all solid-waste initiatives. Although the Council of Ministers approved the National Integrated Solid Waste Management Strategy in December 2024, no service-zone plans or tangible projects have begun in Hasbaya, Chebaa, or Rachaya al-Fokhar. On the ground, infrastructure remains rudimentary—few bins, no dedicated trucks, no engineered disposal or recovery and every dumpsite lies in a security-sensitive area where workers face daily risks. Employment is largely informal, wages sit below living costs, safety measures and PPE are inconsistent, and awareness of legal rights and health risks is minimal.

This policy–practice gap is compounded by a fragmented system of three non-cooperating sub-systems: formal centralized, informal centralized, and newly semi-formal decentralized waste management. The lack of coordination suppresses overall efficiency. Yet the newer municipal, decentralized projects often outperform the centralized model on core ISWM features, improving user inclusivity and piloting cost recovery through user fees.

Their long-term resilience, however, hinges on two unresolved, central-level issues: how residual waste is handled and how stable financing is secured.

The way forward is clear: moving existing laws and the December 2024 Strategy from paper to practice. Municipalities, as the main point of responsibility, together with private operators, should design and implement Local Operational Management Plans under Article 11 of Law 80/2018 in coordination with the National Waste Authority and the Ministry of Labour. Article 20's collection standards must be enforced to guarantee formal contracts, fair wages, regulated hours, comprehensive training, dependable PPE, and health insurance for every waste worker. Donors and the Lebanese diaspora can operationalize these mandates by backing waste management projects that focus on the 3 Rs (Reduce, Reuse, Recycle), mobile collection hubs, and waste worker cooperatives that pool resources, raise incomes, and improve safety.

Finally, in order to ensure long-term suitability for waste sector needs in areas of human resources and infrastructure preparedness, a municipal cost-recovery law is essential to provide local authorities with sustainable revenue. Coupled with a resumption of normal institutional processes, lawful mandates, strategic implementation, and recognition of all actors along with investments aligned with ILO, WHO, ISWA, and UNDP standards and national regulations, these steps can turn the South's waste sector into a model of a just environmental transition: protecting workers, restoring reliable services, and building system-wide resilience.

The report is part of the project «WASTE or RESOURCE? - Enterprises and municipalities' environmental and social responsibility». The project is led by a consortium comprised of CELIM, Cesvi, and Oxfam Italia in partnership with Oxfam GB, Ingegneria senza Frontiere Milano, Politecnico di Milano, and the municipalities of Hasbaya and Chebaa, through the support of the Italian Agency for Development Cooperation (AICS).