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RE-7-REG

REGIONAL ACTIVITY ON BEST PRACTICES IN PROMOTING CIRCULAR ECONOMY AND ACHIEVING WASTE REDUCTION IN THE MEDITERRANEAN

ASSESSMENT REPORT

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WATER AND ENVIRONMENT SUPPORT IN THE ENI SOUTHERN NEIGHBOURHOOD REGION

The "Water and Environment Support (WES) in the ENI Neighborhood South Region" project is a regional technical support project funded by the European Neighbourhood Instrument (ENI South). WES aims to protect natural resources in the Mediterranean context and to improve the management of scarce water resources in the region. WES mainly aims to solve the problems linked to pollution prevention and the rational use of water.

WES builds on previous similar regional projects funded by the European Union (Horizon 2020 CB/MEP, SWIM SM, SWIM-H2020 SM) and strives to create a supportive environment and increase capacity all stakeholders in the partner countries (PCs).

The WES Project Countries are Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Libya, Palestine, Syria and Tunisia. However, in order to ensure the coherence and effectiveness of EU funding or to promote regional cooperation, the eligibility of specific actions can be extended to neighboring countries in the Southern Neighborhood region.

DISCLAIMER:

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1 SUMMARY OF THE ACTIVITY

Topic: “Regional activity on best practices in achieving waste reduction in the Mediterranean”

Main objective: identify and undertake “regional assessment” of high-tech and low-tech solutions to improve waste reduction and management, as well as economic/fiscal instruments and awareness raising activities.

Scope: municipal waste (household waste and assimilated waste), practices covering the 3Rs.

Target group: regional institutions, national governments, local authorities, formal and non-formal education institutions, civil society, private sector.

WES partner countries: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, and Tunisia

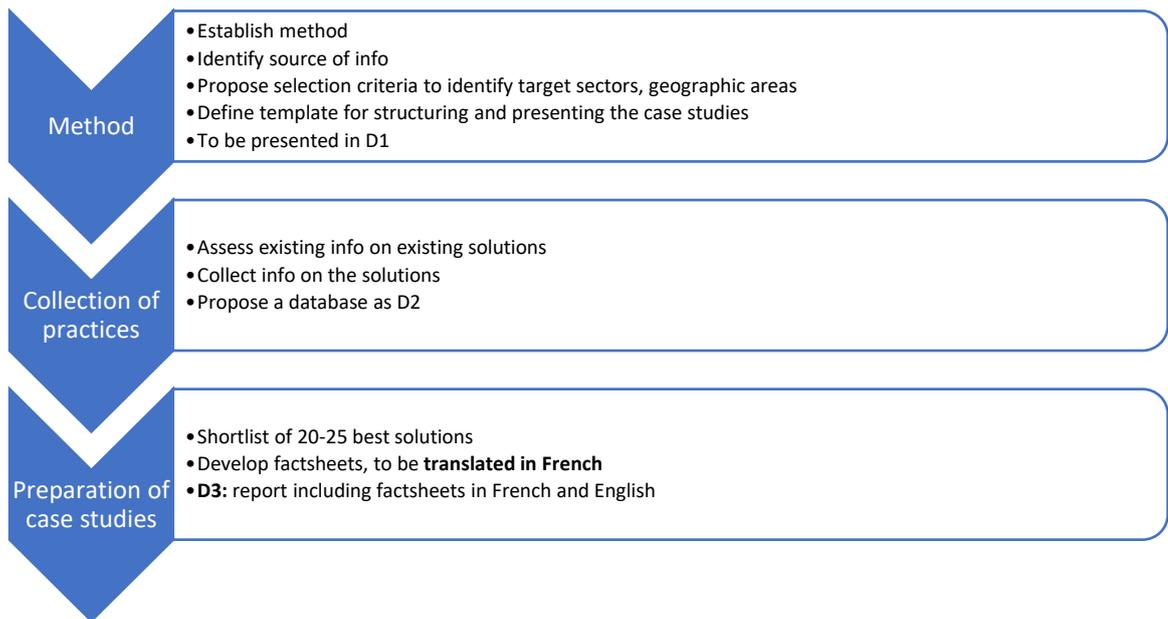
Tasks :

1. Conduct a regional assessment of high- and low-tech solutions that have been successfully implemented to achieve waste reduction and promote the principles of circular economy
2. Develop a web-based tool to showcase the practices identified under Task 1 for waste reduction and circular economy and facilitate dissemination.

Task 1: collect information and data on solutions

- Implemented in Mediterranean countries and elsewhere
- Relevant to the Mediterranean countries’ context and needs
- Focus on municipal waste. Several fractions mentioned: packaging, biowaste, tires, WEEE, construction et demolition waste.
- Technical and technological, communicative, economic/fiscal instruments (incentives, public-private partnerships, etc.)
- Scope: prevention, re-use, recycling
- How to finance it (Extended producer responsibility, RE through business models revisions, taxes, incentives, etc.)

The activities foreseen in Task 1 are summarised in the figure below:



Task 2: web-based tool to showcase the practices

- Define the outlines and functions with web-designer and partner organizations
- Discussion and validation with project team, following consultation with the partner organisations
- Implementation
- Agreement on hosting and visual identity

Timeline

M1 is March.

Task	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8
Task 1								
Task 2:								



2 WORKPLAN

2.1 ACTIVITY STEPS

The activity consisted in five main steps:

1. **The definition of a method and workplan**, including the identification of key issues to be addressed by the best practices, the criteria to select them, and the information and data that will have to be included in the online factsheets (M1);
2. **The identification of relevant sources of information** in a shared database (M1-2);
3. **The identification of interesting best practices** along with key information allowing to determine whether or not they can be considered as best practices, presented in a common database (M2-4);
4. **The selection of best practices** and the drafting of factsheets to present them (M5-6)
5. **The integration of factsheets in a webtool** allowing users to quickly identify practices relevant to their needs and interests. The actual design and implementation of the webtool is undertaken by an experienced web designer contracted by the UfMS. (M4-M8).

The following timeline was proposed:

Step	M1	M2	M3	M4	M5	M6	M7	M8
1.								
2.								
3.								
4.								
5.								

Step 1:

- Proposition of a first draft for the method by ACR+ to the NKEs (week 1)
- Fine-tuning and second draft proposed to project team (week 3)
- Finalisation and final version of the work method (end of M1)

Step 2:

- **Stakeholder consultation** (detailed below) to identify specific challenges to be addressed and actual best practices, to be conducted in English and French.
- **Collaborative list of references**: publications, websites, guidelines, contacts, database, etc. through an online spreadsheet, including references (name, year, authors, etc.) and information on the topic addressed by the report (specific waste streams, specific sectors, specific instruments, geographical scope). A template is established by M1.
- **Identification of potential gaps** between the available resources and the needs identified during the first month of the project (e.g. geographical coverage, specific waste streams, specific instruments, etc.).
- **Further contact with key stakeholders** to fill these gaps and final list of references ready by end of M2.

Step 3:

- **Collaborative list of best practices** in an online spreadsheet including key information allowing the assessment of their relevance and to ensure a proper coverage of all key topics identified as relevant to the target group, and existence of evaluation criteria on key aspects (e.g., availability of key information, quality of information/data, replicability of the practice, existence of a clear business case, etc.) (M2)
- **Analysis of gaps and overlaps** in the best practices identified (e.g., geographical coverage, specific waste streams, specific instruments, key sectors, etc.).
- **Further contact with key stakeholders** to fill these gaps and final list of best practices ready by end of M3 (actually delivered a bit later), with all key information filled. An objective of around 40 to 50 practices is set.

Step 4:

- **Selection of the best practices** based on several criteria: validation of the evaluation criteria, good geographical coverage, diversity in the 3 Rs, diversity in the nature of the instruments covered, etc. 30 best practices are selected by M4-5.
- **Discussion on the selection** with the project team to narrow down the list to 20-25 depending on the needs and expectations. The final list is agreed on by M5.
- **Drafting of the factsheets** for the selected best practices. First drafts are available by M5 for review by the project team.
- **Finalisation of the factsheets** for the web designers.
- **Translation of the factsheets in French.**

Step 5:

- **Definition of the outlines** of the webtool by NKE, including: general organisation, classification of the factsheets, presentation of the online factsheets, links with other key resources, other required functions, etc. A tagging system is defined based on the key criteria defined in the methodology and used for the collection of best practices. The outlines were discussed with the web designer and validated by the project team (M5).
- **Proposition of mock-ups** for the homepage, key sections, and one factsheet by the web designer for validation by the project team (M6);
- **All the information of the factsheets transferred** to the web designer in the agreed format, including tags associated with each best practice and translated versions;
- **First version of webtool** with all factsheets uploaded (M7)
- **Final version of the webtool** ready and online, following the feedback from the project team (M8)

2.2 IDENTIFICATION OF KEY TOPICS AND CHALLENGES TO BE ADDRESSED

When defining criteria for the collection of best practices, it was essential to understand the context of waste/resource management in the MENA region. The following elements were taken into consideration:

- Around 70% of household waste is made of organic waste;
- Most of waste is currently landfilled;
- Selective collection systems are still at a very early stage, when available;
- EPR systems (especially for packaging), when existing in a law, are not yet implemented at a global scale;
- Most of the time, there is no clear link between waste management costs and the economic value of the collected waste;
- Most of the time, there is no complete administrative decentralisation of competences (at both regional and municipal level) which can represent a barrier to incentive local initiatives.

It was essential to clearly identify best practices that are somehow linked to the “demand” and selected according to the actual challenges, needs, and weaknesses of the targeted countries. This first assessment was completed thanks to a stakeholder consultation, presented below.

2.3 STAKEHOLDER CONSULTATION

To ensure that the project meets the expectations from the target audience, and make sure that key best practices are covered, a stakeholder consultation was conducted within the first months of the activity. This consultation consisted in letters and questions sent to key organisations within the WES partner countries.

The table below lists the categories of stakeholders that were considered, along with the questions asked, and the method to consult them:

TABLE 1: CATEGORIES OF STAKEHOLDERS, QUESTIONS AND CONSULTATION METHODS

Category	Challenges	Best practices	Method of consultation
National authorities	Key national priorities in terms of waste fraction, key sectors		
Focal points, UfM, UNEP/MAP	Main weaknesses identified regarding the 3Rs Main interests for instruments and BP: collection, re-use, prevention, economic instruments, communication, etc. Specific demands for the project	Identified best practices Identified front-runners (local authorities, waste management companies, etc.) Identified publications	Online survey Direct interviews by phone or teleconference
EU delegations		Relevant and/or similar on-going projects to identify potential gaps and overlaps	Direct emails Direct interviews by phone or teleconference

Networks of local authorities	Main local challenges to implement the 3Rs in terms of fractions, sectors, or local conditions, or local resources Specific demands for the project	Frontrunners Best practices Key sources of information (reports, online resources, etc.)	Online survey Direct interviews by phone or teleconference
Waste companies and waste service providers	Main challenges and barriers identified when handling municipal waste Specific demands for the project	Frontrunners Best practices Key sources of information (reports, online resources, etc.)	Online survey
Other (education institutions, NGOs...)	Main challenges and barriers	Frontrunners Best practices	Online survey

Interviews were conducted with Focal points, EU delegations, and identified stakeholders, with a target of 5 interviews for each target country. These interviews were organised to ensure that proper input is obtained and to collect more qualitative information on the challenges and good practices, and efforts were made to involve a representative panel of the aforementioned stakeholder categories.

When contacting the different stakeholders, the following elements were communicated:

- A short summary of the project and its objective;
- The scope of the project and key interests;
- The reason why we contact them: identification of key challenges and topics to be addressed by the best practice (BP), or/and the identification of frontrunners, effective instruments, or any innovative best practice;
- A short list of key questions for them to list both challenges and existing practices.

The message and online survey were short but comprehensive and the questions easy to answer (e.g., an online form with boxes to tick, a short list of references, key organisations/contacts, or link to publications for best practices).

A specific method was developed for the stakeholder consultation, including the process and timeline, content of the questionnaire, and template for the message to be sent to the different categories of stakeholders.

2.4 CRITERIA FOR THE IDENTIFICATION OF SOURCES OF INFORMATION

The activity aimed at identifying **best practices focusing on municipal waste**, on various aspects of circular economy, including **prevention, re-use, and recycling**, and addressing **different types of aspects** (the involvement of citizens for waste reduction and source separation, collection systems, the relation with human health, etc.) **and instruments** (awareness raising, economic instruments, new legal requirements, incentives, etc.). The final selection **includes a mix of practices from the WES partners countries and from the EU**, including the recently approved Green Deal package, with the main criteria being **their transferability to the WES partners countries**.



The first phase of data collection was the identification of key sources of information in which the best practices were identified, and where data and information was retrieved to document the selected best practices.

The identification of sources of information was done through the completion of an online spreadsheet listing the following information. The research of information covered a wide range of instruments and categories of best practices: collection systems and modes of collection, communication activities, stakeholder involvement, economic incentives (Pay as you throw, deposit-refund system, taxes on disposal, etc.), regulation, or more specific instruments such as extended producer responsibility schemes. Besides, efforts were focused on key waste fractions, such as bio-waste, packaging waste, and WEEE.

The results of the stakeholder consultation provided key information for this stage. Listing the key references was essential to ensure that best practices include clear and accurate references to the source of information.

- Name of the source of information publication, website, database, etc.
- Author
- Year of publication (recent publication, e.g., within the last 5 years, should be given priority, and publications older than 10 years should be avoided)
- Link (if available)
- Brief description of the content
- Geographical coverage of the practices included;
- Topics covered: prevention / re-use / recycling / other (specify)
- Waste fractions covered: biowaste / paper and packaging / WEEE / residual waste / plastic / other (specify)
- Type of instrument addressed: technical / communication / economic / regulation / other
- Topics covered: source-separation / collection / sorting / treatment / other
- Key sectors covered;
- Specific contexts covered: urban areas / rural areas / touristic areas / industrial areas / other

The identification of sources of information was distributed among the NKEs on a geographical basis:

- NKE1 (Jean-Benoit): Europe
- NKE2 (Mounia): Morocco, Tunisia, Algeria
- NKE4 (Eleni): Lebanon, Jordan, Egypt, Israel

2.5 CRITERIA FOR THE COLLECTION OF BEST PRACTICES

When defining criteria for the collection of best practices, it was essential to understand the context of waste/resource management in the MENA region. The following elements were taken into consideration:

- Around 70% of household waste is made of organic waste;
- Most of waste is currently landfilled;

- Selective collection systems are still at a very early stage, when available;
- EPR systems (especially for packaging), when existing in a law, are not yet implemented at a global scale;
- Most of the time, there is no clear link between waste management costs and the economic (and overall) value of the collected waste;
- Most of the time, there is no complete administrative decentralisation of competences (at both regional and municipal level) which can represent a barrier to incentive local initiatives.

Taking into consideration these elements, it was proposed to list two types of information for the best practices:

- **Key information** on the context, topics and waste fractions covered, and general outcomes, which was used to ensure a good diversity of BPs in the final selection;
- **Key criteria** assessing the relevance of the BPs, using a simple scoring system, to assess whether the BP can be effectively taken up for the purpose of the activity, and if it is relevant to the target audience (including producers).

The **key information** is listed here:

- Name of the BP
- Location
- Country
- Topics covered: prevention / re-use / recycling / other (specify)
- Waste fractions covered: biowaste / paper and packaging / WEEE / residual waste / plastic / other (specify)
- Type of instrument addressed: technical / communication / economic / regulation / other
- Topics covered: source-separation / collection / sorting / treatment / other
- Specific contexts covered: urban areas / rural areas / touristic areas / industrial areas / other
- Key sector (if applicable)
- Target: household, commercial activities, vertical housing, tourists, etc.
- Overall costs: high/med/low, covering both investment costs and running costs;
- General description
- Main results
- Sustainable Development Goals covered

The key criteria used are below. Each criterion was given a score by the NKE (1: good / 2: average / 3: poor). The different scores were assessed by the NKEs based on the available information. Quality of information and data: clear and consistent information is available to document the best practice without further researches:

1. Everything is available to fill the template, including clear information on the required resources and quantitative information on results
2. Most information is available

3. Further researches is required to document the practice;
- Effectiveness of the BP:
 1. The BP is regarded as very effective, with quantitative information on the outcome of the practice is available, or the BP is very innovative, and addresses topics or challenges that are generally not addressed by other practices
 2. The BP is effective, and/or partial information on the results is available (e.g., on the outreach, qualitative information from local experts, elements on the reaction of the targets
 3. The BP has little effect, or no clear information is available on the results.
 - Relevance for the target audience and countries and transferability:
 1. No element identified that would prevent the transfer or BP, and the BP addresses key challenges identified;
 2. Potential barrier for transfer
 3. Clearly identified framework conditions or contextual conditions (e.g., subsidies, specific regulation, weather conditions, etc.) that are identified as factors of success of the BP and might not be available in the WES partners countries, and/or the BP does not cover a relevant topic/challenge
 - Possibility to upscale:
 1. The BP is already a roll-out action, and should work at a large scale
 2. The BP is a pilot action but this does not seem to be clearly-identified: obstacle for upscaling
 3. The BP is a pilot/small-scale action and it might be complicated to upscale (it works in very specific conditions, or it would require too much resources, or it is only possible with a strong local participation, etc.)

Besides, each source of information was given a number which was used when listing the best practices, to ease the identification of references during the documentation of best practices.

2.6 TEMPLATE FOR THE BEST PRACTICES

The following information was documented in the factsheets for the 20-25 best practices:

- **Scope/objective of the BP** and context within which it was undertaken i.e. in response to what.
- **General information on the territory:** location, country, population, density, specific characteristic (e.g., tourism activity, etc.), and key information on waste management (municipal waste generation per capita, current sorting rate in %);
- **Information on the organisation** that implemented the BP: public authority, waste company, other, etc.
- **Key information on the BP** (as listed above in the BP database);
- **Context for the implementation of the BP:** why was the BP implemented (following a specific regulation or obligation, specific challenge identified, political decision, etc.), general description of the situation prior its implementation;

- **Description of the implementation of the BP:** timeline, key steps;
- **Key stakeholders involved:** other local players that were involved in the implementation or facilitated its implementation;
- **Resources involved:** investment costs, running costs, human resources, method for financing the BP (EPR system, specific subsidy, incomes generated by the BP, local tax/fee, etc.)
- **Main results of the actions:** quantitative results (e.g. reduction of waste, quantities sent to re-use/recycling, collected quantities before and after, etc.), reception of the target groups, qualitative results;
- **Key factors of success:** contextual factors, critical instruments, critical stakeholder, specific framework conditions... identified as essential for the BP to be implemented
- **References** and links to further information.

3 STAKEHOLDER CONSULTATION – MAIN RESULTS

3.1 INTRODUCTION

To ensure that the activity is relevant and useful to the different target audiences of the project (National authorities, local authorities, waste utility companies, etc.), a stakeholder consultation has been conducted. The main objectives were:

- To get a good overview on the key priorities, challenges, and needs of the different stakeholders in the eight countries;
- To collect information on existing good practices and frontrunners.

The stakeholder consultation was centred on an online survey, available in English and French, asking questions on the different points mentioned above. In addition, a series of interviews were conducted among various stakeholders in the different countries, to get further input and collect more qualitative information. The organisations that provided input are presented in Annex 1.

3.2 RESPONDENTS TO THE SURVEY AND INTERVIEWS

In total, 25 organisations responded to the online survey or to the interviews: 18 organisations filled the online questionnaire, and 10 interviews were conducted (3 organisations provided input with both the questionnaire and an interview). The types of organisations and countries of the respondents are quite diverse, as presented in the graphs below:

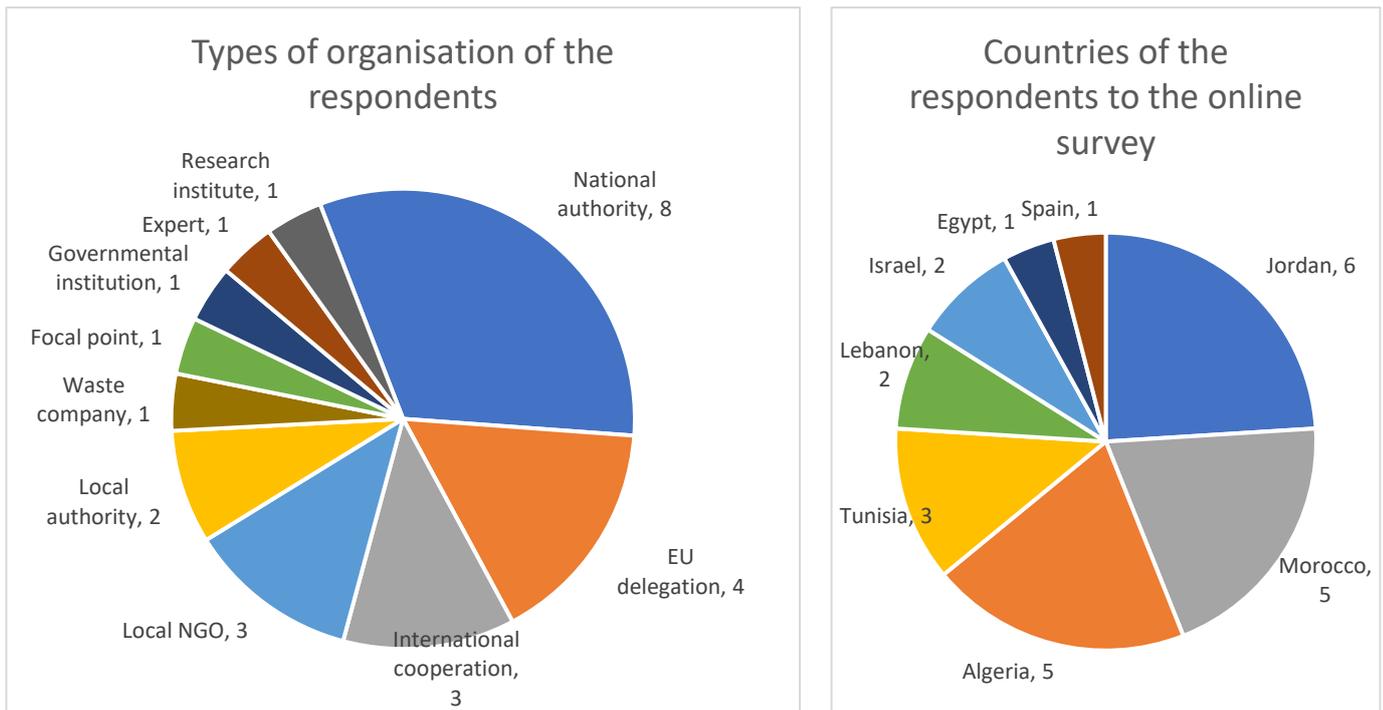


FIGURE 1: TYPE OF ORGANISATIONS AND COUNTRIES OF THE RESPONDENTS TO THE CONSULTATION

The stakeholder consultation permitted WES to reach very different types of players, with the majority being national authorities, EU delegations, and organisations in charge of international cooperation among the respondents. All target countries were covered but Palestine. One respondent was located in Spain, but provided input on priorities and key challenges for the area targeted by the WES project. The nature of the information retrieved with the online survey were slightly different from that retrieved with the interviews, even if the same general questions were asked: the survey provided more generic replies, while interviews provided more qualitative comments concerning the difficulties with framework conditions or more specific concerns on municipal waste management.

The replies generally reflect the perspective of the respondents, and their own priorities. However, the cross-analysis of the different replies highlights the most relevant priorities and topics of interest in the countries targeted by the activity.

3.3 PRIORITIES IDENTIFIED

The questions addressed the following elements:

- Priority waste fractions
- Priority sectors
- Main weaknesses for municipal waste management
- Main interests for best practices.

3.4 PRIORITY WASTE FRACTIONS

Respondents were asked to list the key priority fractions for the implementation of the 3Rs for municipal waste. In the online survey, 4 waste fractions were specified: biowaste, paper and packaging waste, WEEE, and residual waste.

The graph below shows the number of respondents that indicated the different waste fractions as priorities:

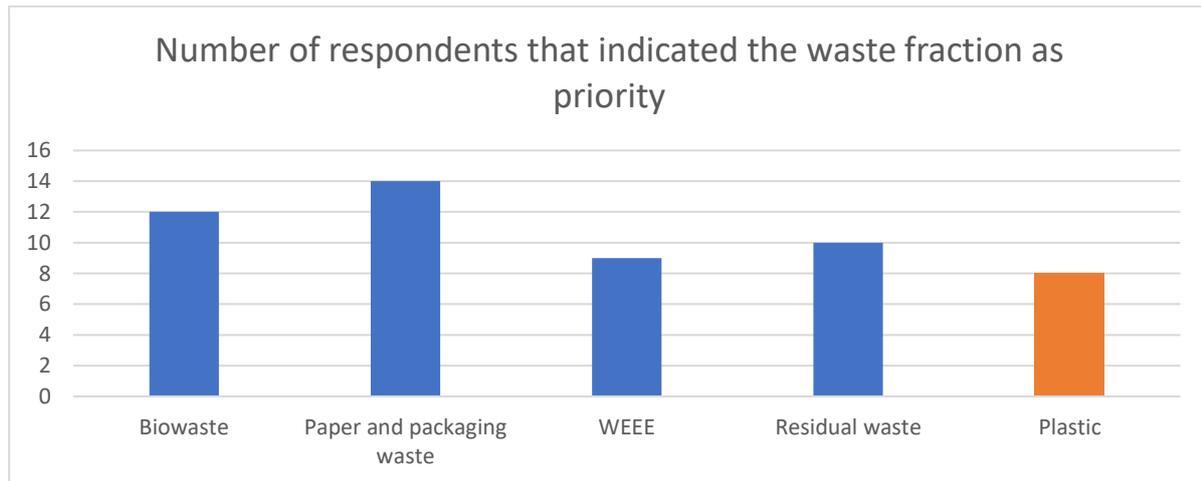


FIGURE 2: NUMBER OF RESPONDENTS THAT INDICATED THE DIFFERENT WASTE FRACTIONS AS PRIORITY

Both biowaste and paper/packaging waste are the main waste fractions, being reported by 12 and 14 respondents, respectively. Residual waste and WEEE are also regarded as priority fractions by respectively 10 and 9 respondents. Many respondents, especially interviewees, highlighted “plastic waste” as a key priority, especially plastic bags and plastic packaging, even though it was not one of the fractions that was selectable in the online form. Plastic waste is regarded as a major source of pollution in several target countries, possibly linked with the lacking collection infrastructure. Besides, some respondents did not specifically mention priority fractions.

The priority fractions vary from one country to another, as shown in the graph below. Biowaste is highlighted by several respondents in Algeria, Jordan, and Tunisia, and paper/packaging waste is reported in Tunisia, Jordan, and Israel. Residual waste and plastic waste are also waste fractions that are reported in every target country. The priority fractions might also reflect the perceptions of the respondents.

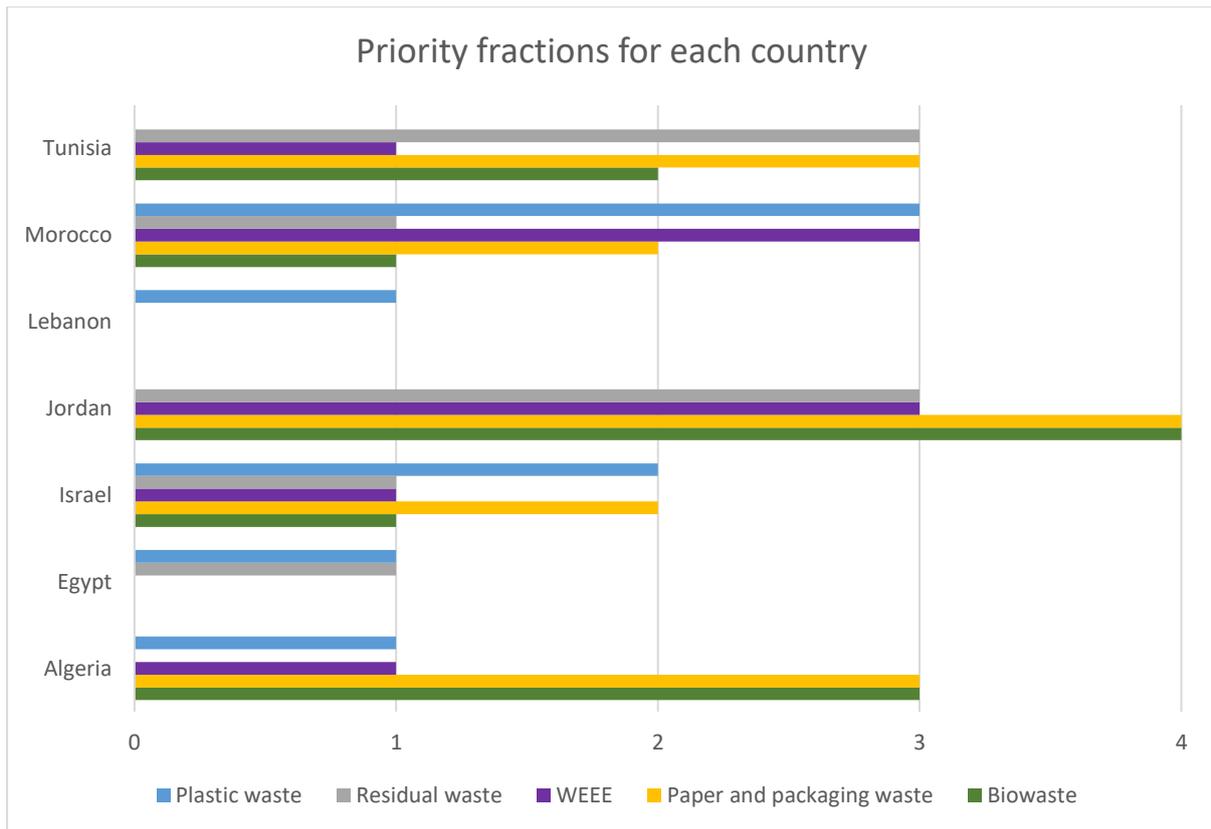


FIGURE 3: PRIORITY FRACTIONS PER TARGET COUNTRY

Interestingly, two interviewees (from Jordan and Lebanon) indicated that there are no key priority fractions at the moment, and that the first priority was to ensure a proper collection and management of municipal waste, before developing source separation.

Regarding priority fractions, the following observations were made by respondents:

TABLE 2: SUMMARY OF THE KEY FRACTIONS PER TARGET COUNTRY

Target country	Observation on key fraction
Algeria	Most respondents indicated biowaste and paper/packaging waste as priority fractions. Plastic waste has been highlighted by the National Waste Agency as a key working topic, especially regarding marine pollution, to assess the source of pollution.
Egypt	The interviewee mostly focused on collection and disposal of mixed waste. However, single-use plastic bags were also mentioned as a fraction to be banned.
Israel	The respondents all indicated paper and packaging waste, and especially plastic waste, as key priorities. Biowaste and WEEE were mentioned as well by one of the respondents.
Jordan	Respondents highlighted biowaste, paper/packaging waste, and residual waste as priority fractions. One respondent mentioned that the current priority concern was to improve the collection infrastructure and rehabilitate the landfills, before starting source-separation.
Lebanon	Plastic was particularly mentioned by the respondents, and more generally paper and packaging waste. The need to reduce the generated quantities of plastic bags and to find alternative was highlighted by one of the interviewees.
Morocco	The most commonly reported waste fraction is plastic waste. Also, paper and packaging waste and WEEE were reported by two different respondents, and biowaste by one. Interviewees insisted on plastic waste and highlighted the lack of regulation on plastic products and plastic waste.
Tunisia	Residual waste and paper/packaging waste were reported by all respondents, and biowaste by most of them. Plastic waste was mentioned by both interviewees.

There are some slight differences among the target countries, reflecting different level of progress and national priorities, yet the key target fractions seem to be:

- **Paper and packaging waste**, especially **plastic waste and plastic bags**;
- **Biowaste**;
- **Residual waste**, especially for areas where collection infrastructures are underdeveloped, or where disposal sites need to be rehabilitated.

These different waste fractions might be associated with different instruments and policies: for instance, most respondents reporting plastic bags mentioned bans or taxes to reduce waste generation.



3.5 PRIORITY SECTORS

The sectors reported by the respondents are presented in the graph below:

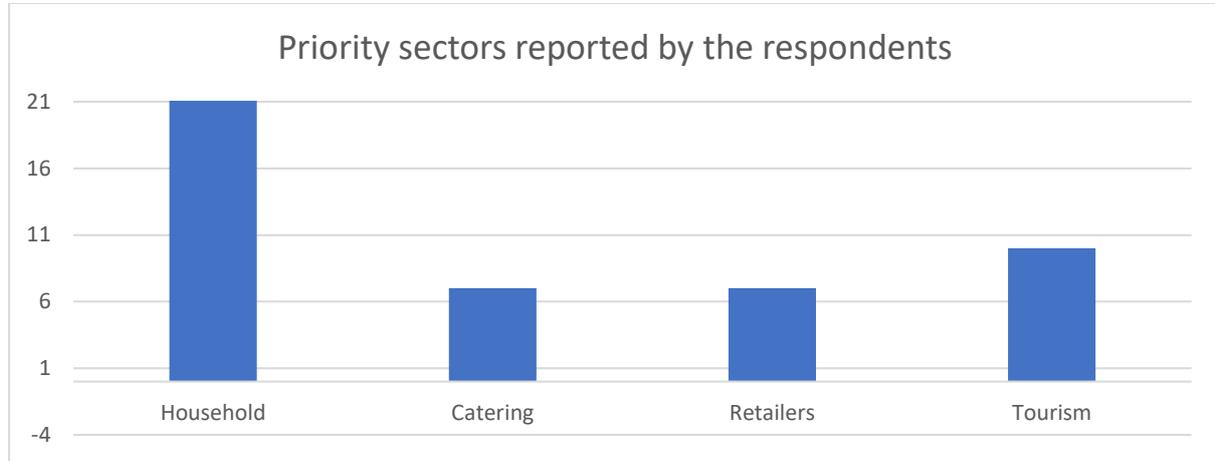


FIGURE 4: SECTORS REPORTED AS PRIORITY BY THE RESPONDENTS

Most respondents indicated households are priority sectors, and 10 of them also reported tourism (mostly from Tunisia, and Jordan). Catering and retailers were proposed by 7 respondents. Several interviewees did not indicate any specific priority sector, and mostly addressed municipal waste (i.e., household waste and similar commercial waste) as a whole. Few interviewees reported priority sectors (some mentioned tourism, e.g. with hotels and restaurants).

Several respondents also indicated other sectors, such as agriculture, construction and demolition, and industries. These sectors are out of the scope of the study that focuses on municipal waste.

Therefore, the main waste producers to be considered as priority are **households and tourism**. Tourism covers the hospitality sector, as well as waste collection in touristic public areas.

3.6 MAIN WEAKNESSES

The online questionnaire included a question on the main identified weaknesses regarding the implementation of the 3Rs for municipal waste. The results are presented in the graph below:



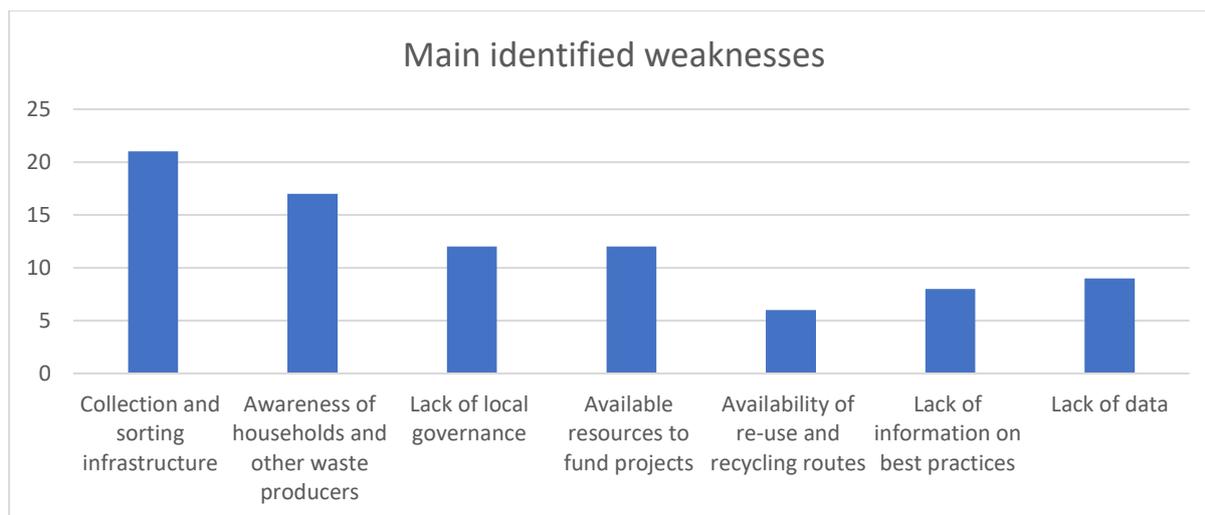


FIGURE 5: MAIN WEAKNESSES IDENTIFIED BY THE RESPONDENTS OF THE ONLINE SURVEY

The main identified weakness is the **lack of collection and sorting infrastructure**, followed by the **lack of awareness of waste producers**, and the **lack of available resources to fund new projects**, and the **lack of local governance** including the lack of local capacity and knowledge. Other weaknesses were reported by several respondents, such as the lack of available resources.

Interviewees offered other challenges, among which some that were mentioned several times:

- The lack of regulation or of enforcement/control by the national government;
- The lack of knowledge and technical capacity at local level;
- The need to better include and professionalize the informal sector to improve their working condition and their contribution to sorting targets.

More detailed findings for each target country is presented below:

TABLE 3: SUMMARY OF THE KEY CHALLENGES PER TARGET COUNTRY

Target country	Observation on key challenges
Algeria	The two main reported challenges are the lack of collection/sorting infrastructure and the lack of awareness of waste producers. Collection was reported as the main bottleneck by one respondent. Interviewees also highlighted the design of sorting centres, private autonomous financing of waste, and marine litter as key challenges.
Egypt	The interviewee mentioned the informal sector and the rehabilitation of landfills as two priorities. He also indicated that inhabitants might be more motivated by the reduction of littering than by waste prevention.
Israel	The interviewees mentioned the following key points: the need for more recycling infrastructure (mainly for organic), the need for a better national legislation and targets for recycling, and the need for promoting reduction at source and dealing with single-use plastics.

Jordan	Collection and sorting infrastructures, and the lack of knowledge on good practices, were two of the most reported weaknesses among the respondents. At local level, the low capacity and awareness of municipalities was highlighted. The implementation of the 3Rs is still at a very early stage, and informal waste pickers do most of the sorting.
Lebanon	The low awareness of waste producers and the lack of resources to fund new projects were mentioned as the key challenges. Otherwise, interviewees mentioned the lack of a proper legal framework and of power to enforce the law. Besides, the recent explosion in Beirut destroyed one of the two sorting lines.
Morocco	The lack of local governance is the weakness that was the most commonly reported by respondents. Other weaknesses were mentioned, such as the lack of regulation on plastics, and the proper involvement of the informal sector.
Tunisia	Most respondents pointed out the lack of collection and sorting infrastructure as the main weakness. Interviewees mentioned the lack of commitment of the private waste sector to pay fees on products/waste.

3.7 KEY TOPICS OF INTEREST

Respondents were also asked about their key topics of interest for the collection and presentation of best practices foreseen by the activity. The main results are presented in the graph below:

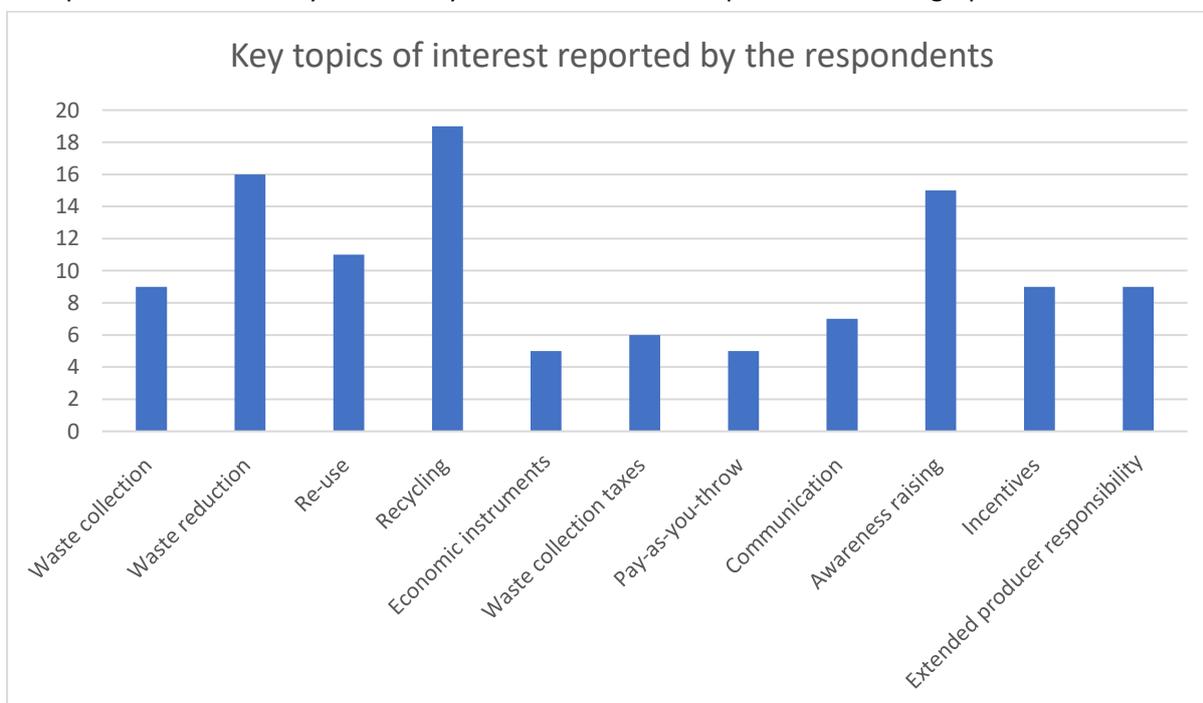


FIGURE 6: KEY TOPICS OF INTEREST REPORTED BY THE RESPONDENTS

The top preferences are **recycling, waste reduction, and awareness raising**. Other topics were reported by many respondents: **waste collection, re-use, incentives, and EPR schemes**.

Interviewees mostly mentioned **the informal sector, and the economic balance of waste management**.

TABLE 4: MAIN OBSERVATION ON KEY TOPICS OF INTEREST FOR EACH TARGET COUNTRY

Target country	Observation on key topics of interest
Algeria	Recycling and awareness raising are the topics that were reported the most. Communication and waste reduction were also reported by most of the respondents. Interviewees also reported the need to update waste management plans, and to increase private autonomous financing of waste. One interviewee indicated that the main bottlenecks are at collection level.
Egypt	The following key topics were reported: waste collection, awareness raising, the involvement of the informal sector, and the need to improve the capacity of the private sector for waste management.
Israel	Waste reduction, recycling, and waste collection taxes are indicated as key topics of interest. Interviewees also mentioned a legislation on single-use plastics.
Jordan	The most commonly mentioned topics of interest are waste reduction, recycling, and awareness raising. The informal sector was also mentioned by interviewees.
Lebanon	Waste reduction, awareness raising and incentives were mentioned as key topics of interest. One interviewee indicated that recycling might not be regarded as a key priority, yet the potential incomes from sorted materials are regarded as a good potential to reduce waste management costs.
Morocco	Recycling and communication are the two most common topics of interest. The informal sector was also mentioned by interviewees.
Tunisia	Recycling is the most commonly mentioned topic of interest, followed by waste reduction and re-use

3.8 CONCLUSIONS ON KEY PRIORITIES AND TOPICS OF INTEREST

Based on the main reported weaknesses and key topics of interest, it appears that the best practices to be collected with this activity should focus on the following points:

- **Key fractions: biowaste, packaging waste, and plastic waste** in general. Specific actions targeting SUPs and plastic bags should be included (e.g., reduction at source and prevention of littering). In addition, actions focusing on waste collection in general (e.g., of residual waste) might be **included**.
- **Key sectors: household waste** is the main concern. However, specific actions targeting tourism and the hospitality sector can be considered.



- **Key topics:** the following topics should be considered:
 1. **Local actions:** Collection and source separation for recycling; Awareness raising; inclusion of the informal sector; waste reduction and prevention of littering.
 2. **Policy instruments:** capacity building of local authorities; economic instruments to finance waste management; regulation targeting single-use plastics.

These parameters were taken into consideration for the selection of the best practices to be documented.

FOCUS ON CHALLENGES AND NEEDS IN PALESTINE

As indicated above, no feedback could be obtained from organisations from Palestine, despite several contacts and reminders. A recent report¹ lists the main challenges and needs for waste management in the occupied territories:

- **Institutional challenges:**
 1. **An incomplete legislative framework**, with no specific regulation focusing on waste, and disconnection between the legal framework and the operational level;
 2. **A weak legislation enforcement**, especially in waste fee collection. The polluter pays principle should apply but is hardly controlled.
 3. **A lack of waste management standards** for the design and handling of sorting and treatment facilities;
 4. **Lack of capacity for the waste management institutions** of staff at national and local level;
 5. **Lack of planning operational management and monitoring**
- **Technical challenges:**
 1. **Lack of collection infrastructure, and low-quality service** in smaller municipalities
 2. **Lack of collection and treatment schemes for special waste**
 3. **Poor working conditions of waste workers and waste pickers**
 4. **Dependence on external funding**
 5. **Limited landfilling capacities and illegal dumpsites**
 6. **Limited technical knowledge** on prevention, sorting, and recycling
 7. **Lack of public awareness**

The elements listed above match the ones identified in the other target countries, for the most part.

3.9 BEST PRACTICES

Respondents provided input on existing good practices in the different target countries. These practices served as a basis for the selection of the best practices to be described in the factsheets. This list of good practices was completed by other good practices identified via other sources (projects,

¹ CESVI, 2019, Solid waste management in the occupied Palestinian territory

reports, etc.), in the target countries or in Europe, so that the topics of interest mentioned above were covered.

In total, 32 good practices were reported, but one of them focused on waste fractions outside of the scope of the project (agri-food waste). Some respondents also reported guidelines or manuals that did not qualify as concrete good practices, and that was regarded as relevant resources to identify further good practices.

The reported practices were listed and shortly analysed to determine their key characteristics and focus, and to identify if they match the interests and challenges presented above. However, it must be noted that the quality of the information provided varies considerably from one practice to another, and for the most part very limited information could be retrieved. Additional research was conducted (e.g., taking advantage of the references provided by the respondents), but limited data could be retrieved to properly assess their relevance. The first list had to be completed with other practices and references to result in 20 relevant and consistent good practices.

The reported practices covered seven out of the eight target countries, with the following distribution:

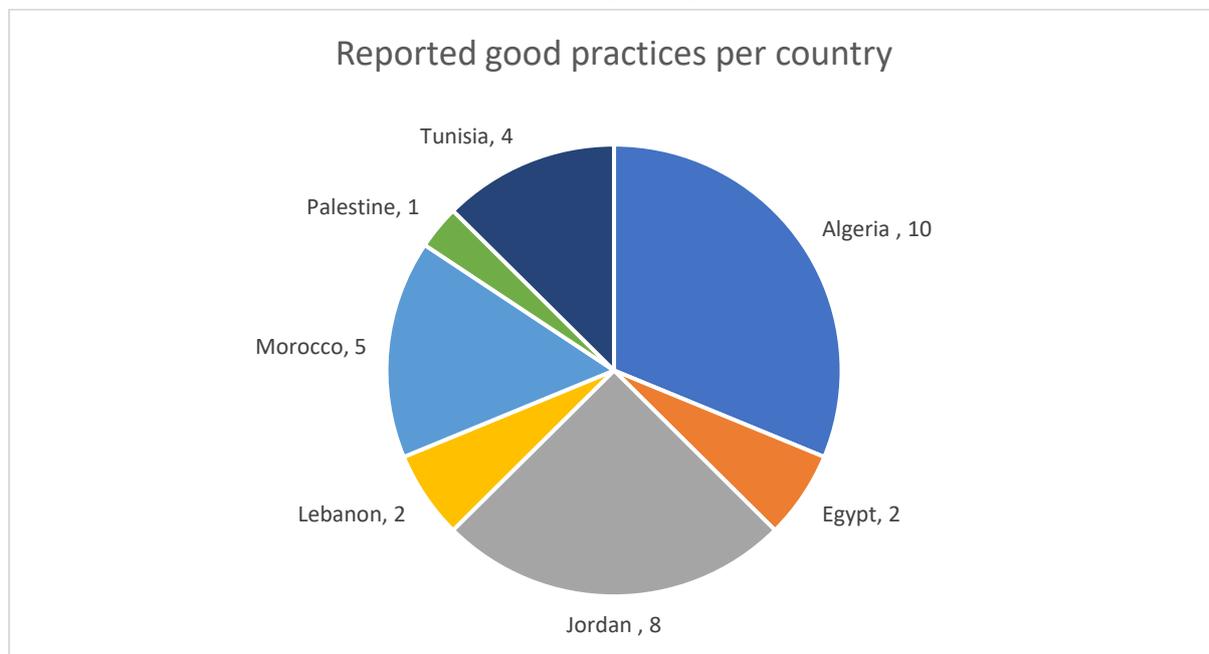


FIGURE 7: REPORTED GOOD PRACTICES BY TARGET COUNTRY

Many practices were reported in Algeria and Jordan, as well as in Morocco and Tunisia. The other three countries were less represented, which might reflect the fact that fewer organisations from these countries took part in the survey and interviews.

The waste fractions covered by the reported practices were also listed, and the number of practices according to the waste fractions that they cover is presented below. Some practices tackle several waste fractions, while others do not specifically target a single waste stream, and they cover all municipal waste.



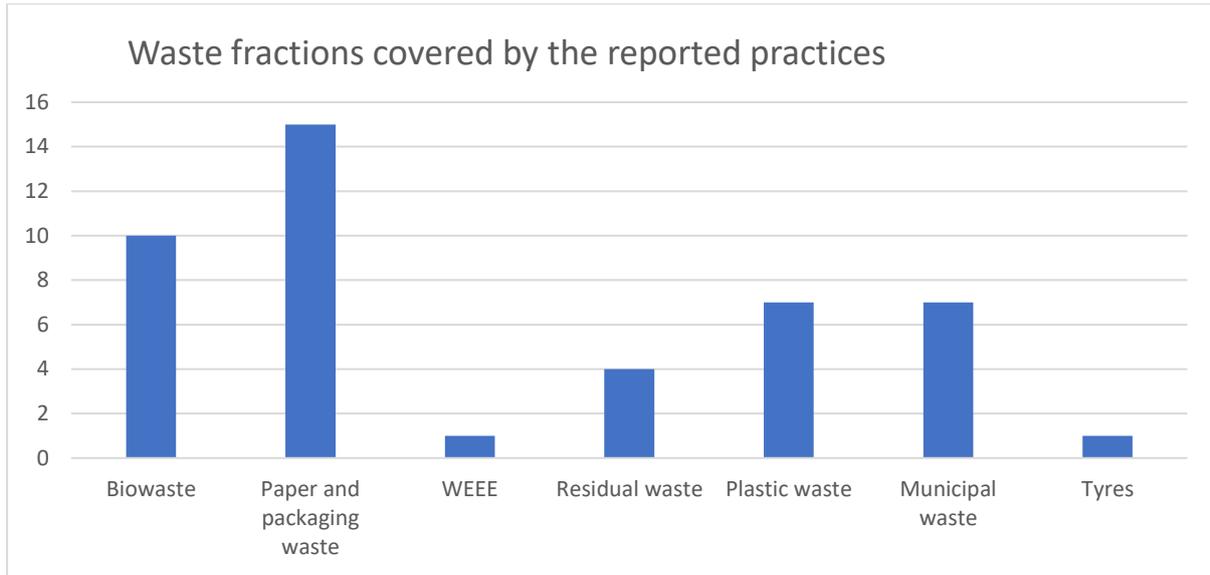


FIGURE 8: NUMBER OF REPORTED PRACTICES PER WASTE FRACTIONS ADDRESSED

Paper and packaging waste is the most represented waste fraction; also, some actions specifically target plastic waste (including plastic packaging such as PET bottles and plastic bags). Biowaste is the second most represented fraction. Most practices focus on such waste, and almost none of them specifically target “occasional waste” such as bulky waste, with only one fraction on WEEE.

The actions were also listed according to the topics that they cover, according to the information available. The following figure presents the number of practices that covered each of the topics at stake:

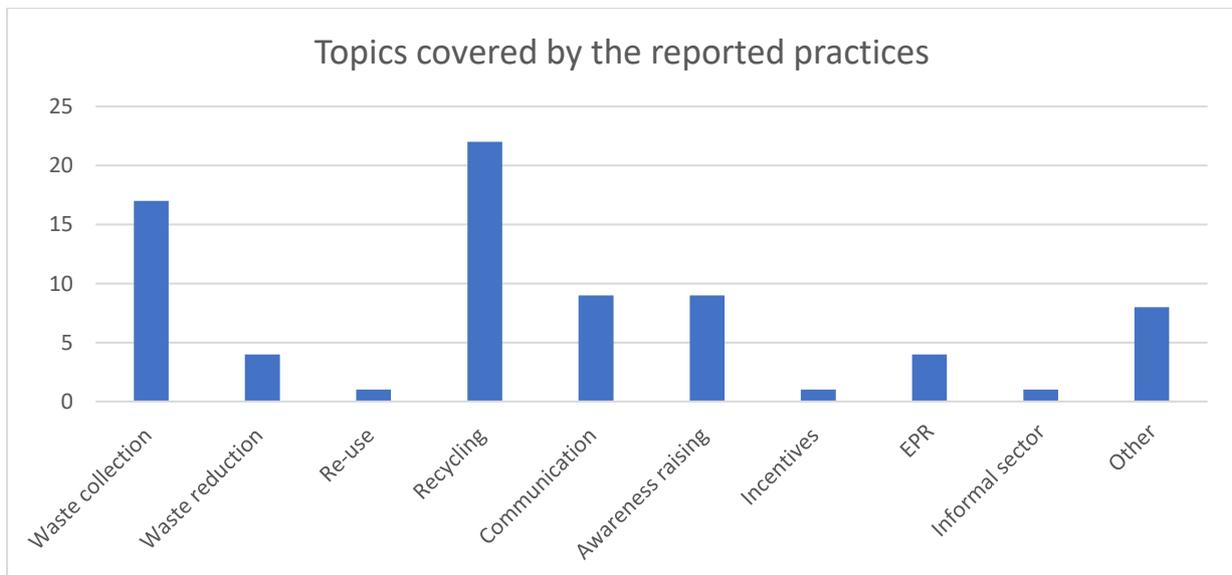


FIGURE 9: NUMBER OF REPORTED PRACTICES PER KEY TOPIC

Most practices focused on waste collection and/or recycling, and many focused on awareness raising and communication activities. Few focused on waste reduction, re-use, and on EPR, while waste collection taxes did not seem to be addressed at all.

Finally, the actions were analysed regarding the context and the target group they tackle. Some practices did not specify any specific context or target group.

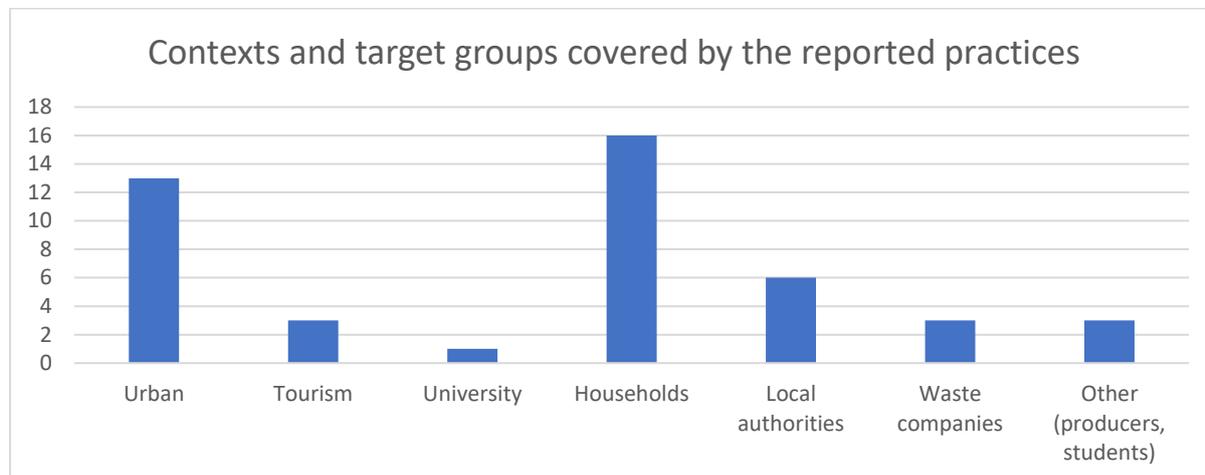


FIGURE 10: NUMBER OF REPORTED PRACTICES PER CONTEXTS AND TARGET GROUPS

Many practices focused on urban areas, and few tackled tourism areas (beaches, etc.). The most commonly found target group was households. Other practices focused on capacity building or training of local authorities (e.g., municipal collection staff) and waste companies (collection and treatment companies). Few practices also addressed other players such as students or producers that put products on the market.

Overall, the first list of practices covered most of the topics and challenges reported by the respondents, with the following exceptions:

- Only one practice addressed **WEEE**;
- Few practices tackled the inclusion of the **informal sector**;
- Few practices focused on the **economic balance of waste management, and economic instruments in general**.

3.10 FRONTRUNNERS

Respondents also indicated front-runners whose practices could be investigated. The following list was retrieved:

TABLE 5: FRONTRUNNERS IDENTIFIED BY THE RESPONDENTS

Country	Location (city, region, country)	Name of the organisation	Type of organisation	Actions
Israel	Israel	Ecocean	NGO	Studies on marine litter, educational programmes
Jordan	Amman	BE Company	Waste Management Company	None specified



Jordan	Amman, Jordan	Mustafa Al-Jaar Establishment For Consultations.	Waste Management Company	None specified
Jordan	Germany	GIZ	Regional authority	Circle project in 3 pilot areas of Amman, on the introduction of source separation for PPW and biowaste, and sorting/treatment facilities
Tunisia	Tunis	شبكة تونس الخضراء- Réseau Tunisie Verte	NGO	Actions against illegal imports of waste from Italy
Algeria	Alger	Agence Nationale des déchets	National agency	Several actions (covered in the good practices): SNID, implementation of selective collection
Jordan	Amman	Abu Rashed For Plastic Recycling	Recycling Facility	Recycling facility
Algeria	Mostaganem	PROFERT	Waste Management Company	Industrial production of compost
Tunisia	Tunis - Tunisie	Agence Nationale de Gestion des Déchets	National agency	None specified
Tunisia	Fouchana	ECO GAD	Collecteur de déchets	None specified
Algeria	Région Est : Annaba	Fondation PROBIOM	NGO	Awareness raising scientific expeditions on marine litter
Algeria	Wilaya de Tizi Ouzou	Villages de la Commune de Bouzguène	Local authority	Implementation of selective collection
Spain	Vic, Catalonia, Spain	Ajuntament de Vic	Local authority	Successful implementation of community composting in the city of Vic to valorise the organic waste
Morocco	Green chip Casablanca and Oujda	Projet Green chip Association Al jisir	NGO	Training centre for reuse of WEEE
Jordan	Amman, Jordan	BE for Environmental services	Waste Management Company	Waste Management Company
Morocco	Casablanca	Fédération marocaine de plasturgie	Federation	Federation of Moroccan association of recycling and recovery of plastic waste
Morocco	Casablanca	Ressourc'In Association al ikram	NGO	Social enterprise working on professional reintegration with waste management

This list partly overlapped with the good practices reported and presented in the previous part, yet they gave interesting references. It was further analysed to identify other potential good practices to complete the current available ones.

3.11 CONCLUSION

3.11.1 KEY PRIORITIES

The stakeholder consultation enabled to identify key priorities of the target countries, namely:

- Key fractions: biowaste, packaging waste, and plastic waste in general.
- Key sectors: household waste and tourism and the hospitality sector
- Key topics: collection and source separation for recycling, awareness raising, inclusion of the informal sector; waste reduction and prevention of littering; capacity building of local authorities; economic instruments to finance waste management; regulation targeting single-use plastic.

3.11.2 NEXT STEPS

The reported good practices and frontrunners seemed to cover most of these key priorities, but further investigations were required to:

- **Try to get further contributions** via the online questionnaire from organisations in target countries where few contributions could be obtained (Egypt, Israel, Lebanon). Reminders were sent to the different contacts, but limited interviews could be organized due to the timeline of the study
- **Assess the identified good practices** (quality of data, effectiveness, relevance to target countries, and possibility for upscaling), to determine if the current list includes a sufficient number of relevant practices;
- **Identify complementary practices** addressing the topic, for which there might be gaps (WEEE, informal sector, economic balance) and provide assessments. These practices should be preferably located in the target countries, but complementary research in Europe might be necessary.

3.11.3 UPDATED TIMELINE

The stakeholder consultation required much time to organise and conduct, and entailed some delay with the activity.

Therefore, the activity's timeline was adapted as follows:

- **06/2021 (early):** first list of best practices ready to be reviewed by the project team, with available information and assessment of the four criteria. This included the assessment of already identified practices, and the addition of complementary good practices that would also have to be assessed.
- **06/2021 (late):** first feedback from the project team including a first selection of 20 best practices to document, request or proposition for more information, suggestion of additional practices; final selection of 20 best practices validated by the project team; first factsheet prepared and submitted for the project team to review.
- **07-09/2021:** 20 factsheets drafted by the NKEs.

4 FINAL BEST PRACTICES TO BE DEVELOPED AS FACT SHEETS

The assessment and consultation methodology and results were shared along the way with both the UfM Secretariat and UNEP/MAP for comments and validation.

In the end, a long-list of 59 best practices was shared (Annex 2) out of which a short list of 25 best practices was agreed to be considered for the development of 20 fact sheets (highlighted in yellow). Five BPs (highlighted in orange) were selected as back-up options if obstacles were met during their development.

For the website that was developed under Task 2 of the activity (by a consultant directly contracted by the Secretariat of the UfM, see <https://bestpractices-waste-med.net/>) full fact sheets were developed for the following best practices:

Title	Country	Key tags
The inclusion of the informal sector in the Oum Azza Landfill: the Attawafouk cooperative	Morocco	Recycling
Single-use plastic ban by the Red Sea Governorate	Egypt	Prevention
Implementing source separation and recycling in Lebanese municipalities with the support of the NGO "Arcenciel"	Lebanon	Re-use, Recycling
"Clean Beaches" programme and Blue Flag label for well-managed beaches to prevent littering	Morocco	No-littering, Recycling
Eco-Lef: a national system for the recovery and recycling of post-consumer packaging that focuses on plastic waste	Tunisia	Collection, Recycling
Prevention of plastic bags: a ban on single-use plastic bags, and the Zero Mika Initiative in Morocco	Morocco	Prevention, No-littering
Landfill and incineration tax with a refund criterion to boost source separation of biowaste	Spain	Recycling
Fee modulation in the French Extended Producer Responsibility scheme for WEEE to promote re-use and recycling	France	Re-use, Recycling
A local NGO implementing an integrated waste management system in the cities of Hurgada and Marsa Alam, Egypt	Egypt	Recycling
Single-use plastics – Not in my Sea!	Israel	Prevention
La Brocante, a re-use centre for furniture and household items in Damour, Lebanon	Lebanon	Re-use, Recycling
Community composting to manage 100% of biowaste in a rural area of Spain	Spain	Recycling
Live, love, recycle initiative: an on-demand collection scheme	Lebanon	Recycling

Climate and resource protection through circular economy in Jordan	Jordan	Recycling
Ekogeste, a digital collection service connecting waste producers with waste collectors	Morocco	Collection, Recycling
Sorting and recycling system in Zaatari refugee camp in Jordan	Jordan	Recycling
Improvement of waste collection and treatment in Mascara, Mostaganem, and Sidi Bel Abbes, Algeria	Algeria	Collection
Green Chip, apprenticeship training program and e-waste management	Morocco	Re-use
Tunisie Recyclage, a selective collection service developed by a local NGO	Tunisia	Collection
Verynile initiative – Preventing marine litter and littering	Egypt	No-littering, Prevention

All final fact sheets are available on-line and in pdf format at: <https://bestpractices-waste-med.net/>



5 ANNEXES

ANNEX 1: STAKEHOLDERS CONSULTED

Country	Organisation	Type of organisation	Provided input through...
Israel	Ministry of Environmental Protection	National authority	Online survey
Algeria	GIZ	International cooperation	Online survey
Jordan	Ministry of environment	National authority	Online survey
Israel	Amnir recycling	Waste company	Online survey
Jordan	Ministry of Environment	National authority	Online survey
Jordan	Zarka Municipality	National authority	Online survey
Jordan	GAM	Governmental institution	Online survey
Tunisia	Association ATCOGEN (Réseau MEGARA des Villes Durables)	Local authority	Online survey and interview
Algeria	Enabel	International cooperation	Online survey and interview
Tunisia	Expert	Expert	Online survey
Tunisia	Association Action Tunisie Propre "ACT'UP"	Local NGO	Online survey
Morocco	GIZ	International cooperation	Online survey
Morocco	Association Zero Zbel	Local NGO	Online survey
Algeria	Agence Nationale des déchets	National authority	Online survey
Morocco	COVAD	Focal point	Online survey

Spain	BETA Tech Center - University of Vic / Central University of Catalonia	Research institute	Online survey and interview
Morocco	EU Delegation	EU delegation	Interview
Lebanon	Ministry of Environment	National Authority	Interview
Jordan	EU Delegation	EU delegation	Interview
Egypt	EU Delegation	EU delegation	Interview
Lebanon	Municipality of Jbeil Byblos	Local authority	Interview
Algeria	National Agency of waste	National Authority	Interview
Algeria	EU Delegation	EU delegation	Interview
Israel	Ministry of Environmental Protection	National authority	Online survey
Morocco	Association Al jisir	Local NGO	Online survey

ANNEX 2: ASSESSMENT RESULT (59 CASES – 20 BEST PRACTICES – 5 BACK-UP PRACTICES)

(separate excel sheet due to size)



