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Optimising waste management: Dashboard in Jendouba and circular economy strategy in Kasserine

Circular economy and waste management

Integrated waste management is a major challenge for local authorities in the context of rapid population growth. International initiatives focus on sustainable practices that encourage waste reduction and sorting at the source, recycling, and responsible waste disposal. In Tunisia, waste management has become a strategic priority for the government. The country is committed to adopting an approach based on sustainability and the promotion of circular economy, including innovative awareness-raising strategies and incentive policies.

The regional project "City-to-City Cooperation Maghreb-Germany" (KWT II), commissioned by the Federal Ministry for Economic Cooperation and Development (BMZ), was implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in cooperation with the Service Agency Communities in One World (SKEW) of Engagement Global gGmbH, from March 2020 to February 2024. Among other activities, the regional project supported project partnerships between German and Maghreb cities. The good practices highlighted in this factsheet have been developed by the partner cities Jendouba and Wolfsburg on the one hand and Kasserine and Munich on the other. These practices will be scaled up as part of the follow-up regional project "Urban Adaptation to Climate Change in the Maghreb", running from March 2024 to February 2027.



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Setting up a dashboard to manage the waste management service in the municipality of Jendouba

In Tunisia, the regional KWT II project was implemented in collaboration with the Directorate General of External Relations and Decentralised International Cooperation within the Ministry of the Interior.

The study of urban waste management is of vital importance in that it enables the quantities generated to be controlled and their harmful impact on public health and the ecosystem to be reduced. With this in mind, the municipality of Jendouba has embarked on a project to set up a dashboard with a set of basic indicators. This system enables the municipality to assess its household and similar waste management system.

The aim was to improve monitoring and collection, and to develop best practice in the management of solid urban waste generated by the inhabitants of Jendouba. This partnership project with the German city of Wolfsburg was set up as part of KWT II and has been supported since 2021.



Vision and strategic guidelines for waste collection, management and recovery in the city of Kasserine

The project "vision and strategic guidelines for the collection, management and recovery of waste" was the continuation of the activities carried out by the regional project KWT I in the city of Kasserine, which aimed to promote the circular economy at local level as a lever for addressing environmental challenges. It focused on assisting the municipality of Kasserine in developing a strategic vision and included an in-depth analysis of shortcomings in the various components of its waste collection and transport services. The objective was to identify areas for improvement and to propose organisational solutions and ways of allocating resources.

This project, carried out as part of the regional project KWT II, emerged from a long participatory process initiated by a characterisation study of urban waste in the city of Kasserine in February 2021. The project is the result of a partnership with the German city of Munich, benefiting from the technical expertise provided by KWT II.





Left: Overview of Jendouba's waste management function managing dashboard.

Right: Training and awareness-raising on home composting for residents of the El Madina Eljadida, El Basatine and El Aarich neighbourhoods in Kasserine, 11/12/2023.



Approaches and actions

The methodological approach to implementing the dashboard for the city of Jendouba included three phases (diagram 01):

- 1. Data collection and preparation of the baseline diagnosis: This phase included the collection of administrative data, the implementation of the method for the quantitative characterisation of urban waste, the mapping of the spatial organisation of waste collection and the preparation of the findings and baseline diagnosis.
- 2. Analysis of baseline data: This phase involved evaluating and studying the data collected, determining performance indicators and identifying strengths and weaknesses.
- 3. **General summary and recommendations:** This involved creating a digital interface for monitoring performance indicators, in the form of a dashboard. It also involved drawing up recommendations and strategic guidelines for implementing an organic waste recovery approach.

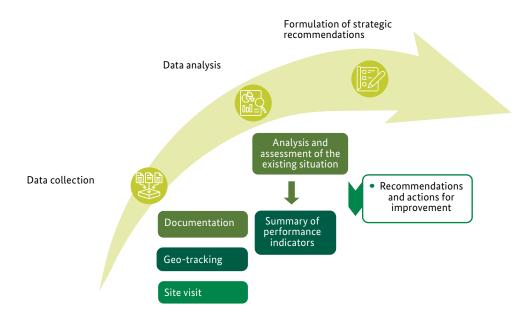


Diagram 01: Methodological approach of the Jendouba project. © GIZ

As for the development of the vision and strategic guidelines for waste collection, management and recovery in the city of Kasserine, its methodological approach was articulated in four main stages, namely (diagram 02):

Identifying the characteristics of the waste management service in the municipality of Kasserine:

This phase involved collecting and analysing data on the staff responsible for waste management, the waste collection methods adopted by the municipality, identification of uncontrolled dumps and black spots, and assessment of the landfill process.

Analysing the physical composition of urban waste collected in Kasserine:

The aim of this phase was to summarise the findings of a study carried out in 2021 on waste flows in the city of Kasserine, with particular emphasis on their physical composition. It also helped to clarify the concept of the circular economy.



Developing strategic guidelines for the city of Kasserine:

This involved developing an action plan to guide the city of Kasserine towards a circular economy approach. These actions include:

- Establishing a sorting and selective collection system.
- Setting up a composting unit.
- · Promoting domestic composting.
- Implementing a network of voluntary drop-off points.
- Introducing a selective collection system of coffee grounds.
- Developing and implementing a digital waste management plan tailored to the municipality of Kasserine.



Designing a communication and awarenessraising strategy and plan

The aim was to identify the target audiences for communication, such as residents, professionals and students, and to raise their awareness.



Diagram 02: Methodological approach for the project in Kasserine. © GIZ



Achievements

The two projects led to the following results (diagram 03):



1

IDENTIFYING FOUR PERFORMANCE INDICATORS IN JENDOUBA:

- Collection rate for household and similar waste: 60%
- Collection coverage rate: 75%
- Average daily production of household and similar waste in Jendouba: 1.5 kg/inhab/ day
- Average collection cost for all routes: 78 TND/tonne

ANALYSING THE COMPOSITION OF HOUSEHOLD WASTE TO ASSESS THE POTENTIAL OF RECYCLABLE MATERIALS IN JENDOUBA:

Organic materials (63.2%), plastics (9.4%), textiles (8.7%), paper and cardboard (8.6%), other (7.4%), metals (1.6%), glass (1.1%).

2





3

DEVELOPING RECOMMENDATIONS AND STRATEGIC GUIDELINES FOR IMPLEMENTING AN ORGANIC WASTE RECOVERY APPROACH IN JENDOUBA:

- Re-organisation of household waste collection routes taking into account new collection methods
- Gradual introduction of recyclable waste sorting at the source in public institutions that generate waste similar to household waste
- Promotion of individual and neighbourhood composting with non-governmental organisations (NGOs)
- Increasing awareness of good household waste management practices among citizens, schoolchildren, students and professionals
- Developing the capacity of the waste management administration with administrative staff

DEVELOPING CAPACITY IN THE OPTIMISATION OF WASTE MANAGEMENT IN THE TWO CITIES:

Around thirty virtual and face-to-face exchanges took place between partners from the Tunisian and German cities.









TWO DECISION-MAKING TOOLS FOR WASTE MANAGEMENT IN THE TWO CITIES:

- The dashboard provided the city of Jendouba with a strategic vision for waste management. This included recommendations and guidelines for effective and sustainable waste management.
- Strategic guidelines and a detailed action plan for a circular economy approach in the city of Kasserine.

Diagram 03: Results of the two projects. © GIZ



Challenges

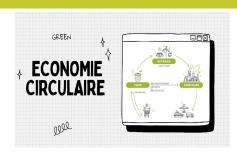
One major challenge was encountered, requiring a specific solution (diagram 04):



INITIAL LACK OF COMMITMENT AND ENGAGEMENT FROM MUNICIPAL STAKEHOLDERS IN JENDOUBA:

Commitment was strengthened by close support, aiming at helping local players to implement an organic waste recovery approach

Diagram 04: Challenge overcome. © GIZ





Left: Extract from an awarenessraising video on the circular economy, published on social networks by the municipality of Kasserine.

Right: Awareness-raising day on the circular economy at the Institut Supérieur des études Technologiques in Kasserine, 06/12/2023. Anita Sebio Kouhè Project Manager anita.sebio-kouhe@giz.de T +49 6196 79 - 1068 Dag-Hammarskjöld-Weg 1-5 65760 Eschborn Germany



Innovative aspects and strengths

The projects in Jendouba and Kasserine stood out for their strengths, reflecting a commitment to sustainable waste management and a circular economy (diagram 05):

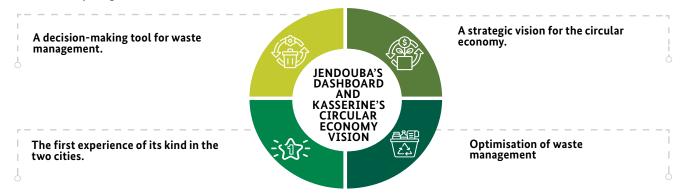


Diagram 05: Innovative aspects and strengths. © GIZ



Best practices, lessons learnt and advice

Several lessons have been learnt and best practices identified from the experiences in the two cities which should be considered when implementing similar projects (diagram 06):



BUILDING ON THE EXISTING EXPERIENCE

Jendouba and Kasserine each drew inspiration from their German partner, the city of Wolfsburg for Jendouba and Munich for Kasserine, during face-to-face and virtual exchanges on waste management and the circular economy approach.

ADOPTING A PARTICIPATORY APPROACH

The success of the two projects depended to a large extent on the involvement of local stakeholders in the project and the commitment of civil society organisations.



IMPLEMENTING A CHANGE MANAGEMENT METHODOLOGY LED BY CIVIL SOCIETY ORGANISATIONS

Diagram 06: Best practices, lessons learnt and advice. © GIZ

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