

Towards a circular economy through an integrated waste management concept in El Guettar

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 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 city of El Guettar in partnership with the district of Böblingen. 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.



Integrated waste management concept in El Guettar

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

The integrated waste management concept is a comprehensive strategy adopted by the municipality of El Guettar. This initiative includes several projects, such as the establishment of a plastic waste sorting centre in 2019 and the development of a Municipal Sustainable Waste Management Plan (MSWMP) in 2022. The primary objective is to promote a circular economy in El Guettar. These projects stem from a partnership between El Guettar and the German district of Böblingen, established and supported by the regional KWT project since its first phase in 2016.

The plastic waste sorting centre project was initiated due to the lack of plastic waste management mechanisms in El Guettar. It aimed to encourage citizens to participate in waste sorting at source by selling their sorted waste. The income generated in this way then helped to cover their municipal taxes.

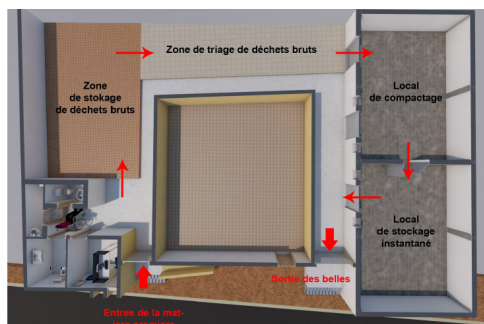
Building on this, the MSWMP aimed to improve waste collection, transport and its recovery. It outlined a five-year strategic vision, detailing the necessary reforms and investments for a sustainable waste management. As an analytical and decision-making tool, the MSWMP has guided El Guettar towards a circular economy.



Approaches and actions

The plastic waste sorting centre project was initiated in 2016 when the city of El Guettar participated in a call for projects in urban development launched by the regional project KWT I. The project's methodological approach was based on the following points:

- **Feasibility study:** A comprehensive assessment of waste sorting initiatives in El Guettar was conducted by the municipality and various associations. Additionally, a technical and financial study was undertaken to explore the project's expansion, including the architectural design of the sorting centre.
- **Implementation:** The implementation phase encompassed the construction of the sorting centre and equipping it with essential devices for optimal operation, such as a baler, a linear belt sorting



Left: Plan of the El Guettar sorting centre (from inside)

Right: El Guettar sorting centre (from outside)

table, wire mesh boxes and 1,200 coloured bins to indicate the materials to be sorted. During this phase, a door-to-door collection process was also initiated. All stakeholders, including residents, were involved through communication and awareness campaigns to promote waste sorting.

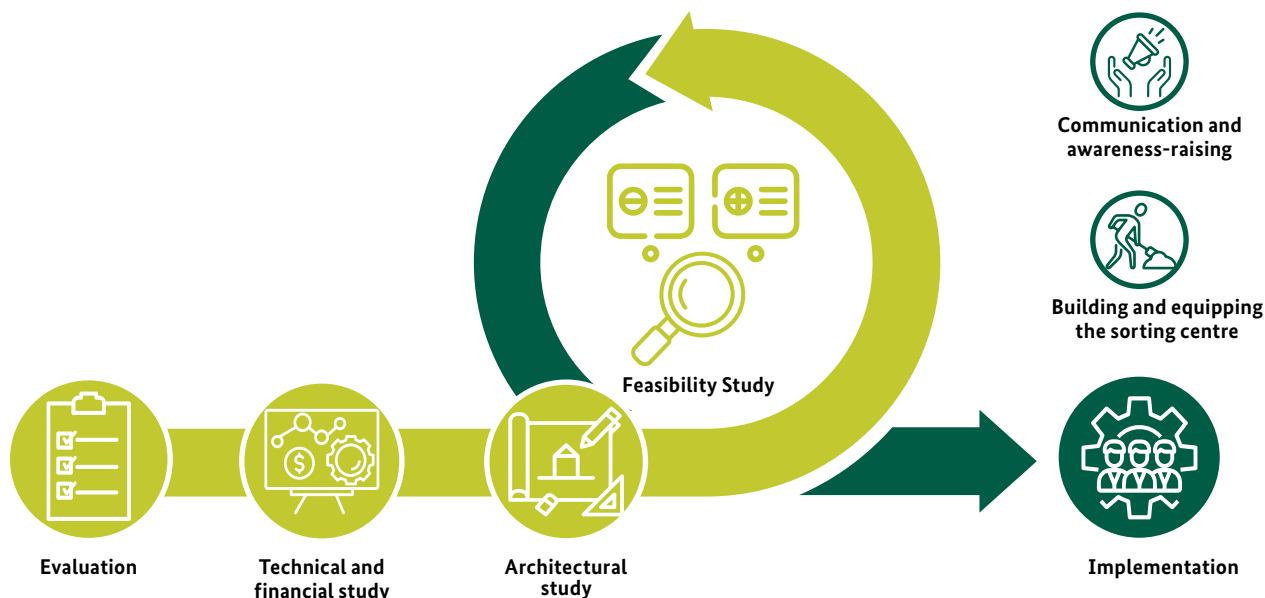


Diagram 01: Methodological approach adopted for the waste sorting centre. © GIZ

The MSWMP was drawn up following a structured methodological approach, divided into three main phases (diagram 02):

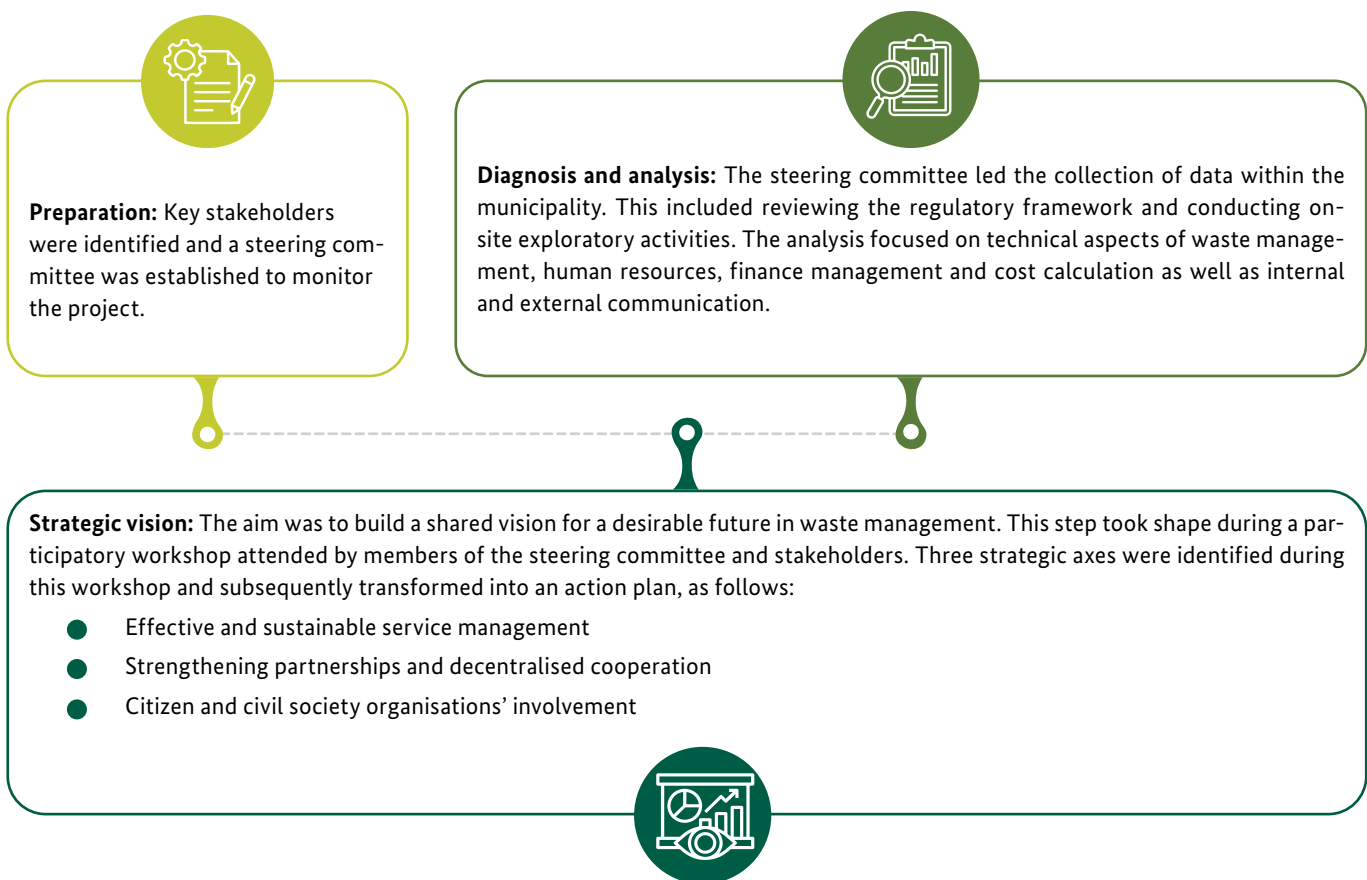


Diagram 02: Methodological approach. © GIZ



Achievements

The integrated waste management concept in El Guettar has achieved the following results (diagram 03):

Exchanges with Böblingen on waste sorting at source: **1**

Five virtual exchanges and three study trips were organized between the two cities. These exchanges concentrated on Böblingen's experience with operating its waste sorting centre, the challenges faced in getting the centre up and running and strategies for optimising waste management processes.



Creation of an income source for residents: **2**

In 2022, over 40,000 kg of plastic waste were successfully recovered.



Introduction of a decision-making tool for waste management: **3**

The MSWMP provided the city of El Guettar with a medium-term (5-year) strategic vision for waste management. This vision proposes the necessary reforms and guidelines needed to achieve effective and sustainable waste management.



Diagram 03: Achievements. © GIZ



Challenges

Many challenges and obstacles were encountered, necessitating tailored solutions. These challenges are detailed in diagram 04:

Public motivation deficit: Several campaigns were carried out to promote waste sorting at source and reducing the use of plastics. A financial incentive was introduced to encourage public participation in the municipal sorting centre project. This incentive allowed residents to pay municipal taxes in exchange for returning collected waste.

2

1

Price overbidding:

The informal sale of plastic posed a challenge due to price overbidding. Informal players offered higher prices for recyclable plastic, creating competition with the sorting centre.



3

Impact of the COVID-19 pandemic:

The COVID-19 pandemic caused significant delays and postponements in the project schedule due to imposed restrictions.



Diagram 04: Challenges encountered. © GIZ



Innovative aspects and strengths

The integrated waste management concept at El Guettar stood out for its strengths, reflecting a commitment to sustainable waste management and a circular economy (diagram 05):

Waste recovery, particularly plastic:

Unlike other types of waste, such as cans, there was no dedicated recovery and recycling circuit for plastic waste.



Analysis and decision-making tool



Integrated waste management concept in El Guettar

The first pilot project of its kind in Tunisia:

This is a first experiment in Tunisia in terms of rewards in the form of reduced local taxes.



Clear vision over 5 years:

Quantitative and qualitative waste projections, along with an estimation of management costs and the potential for recoverable materials over a 5-year period.



Diagram 05: Innovative aspects and strengths. © GIZ



Left: Two employees of the El Guettar municipality using a baler in the sorting centre.

Right: Plastic waste compacted by the baler.

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Best practices, lessons learnt and advice

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

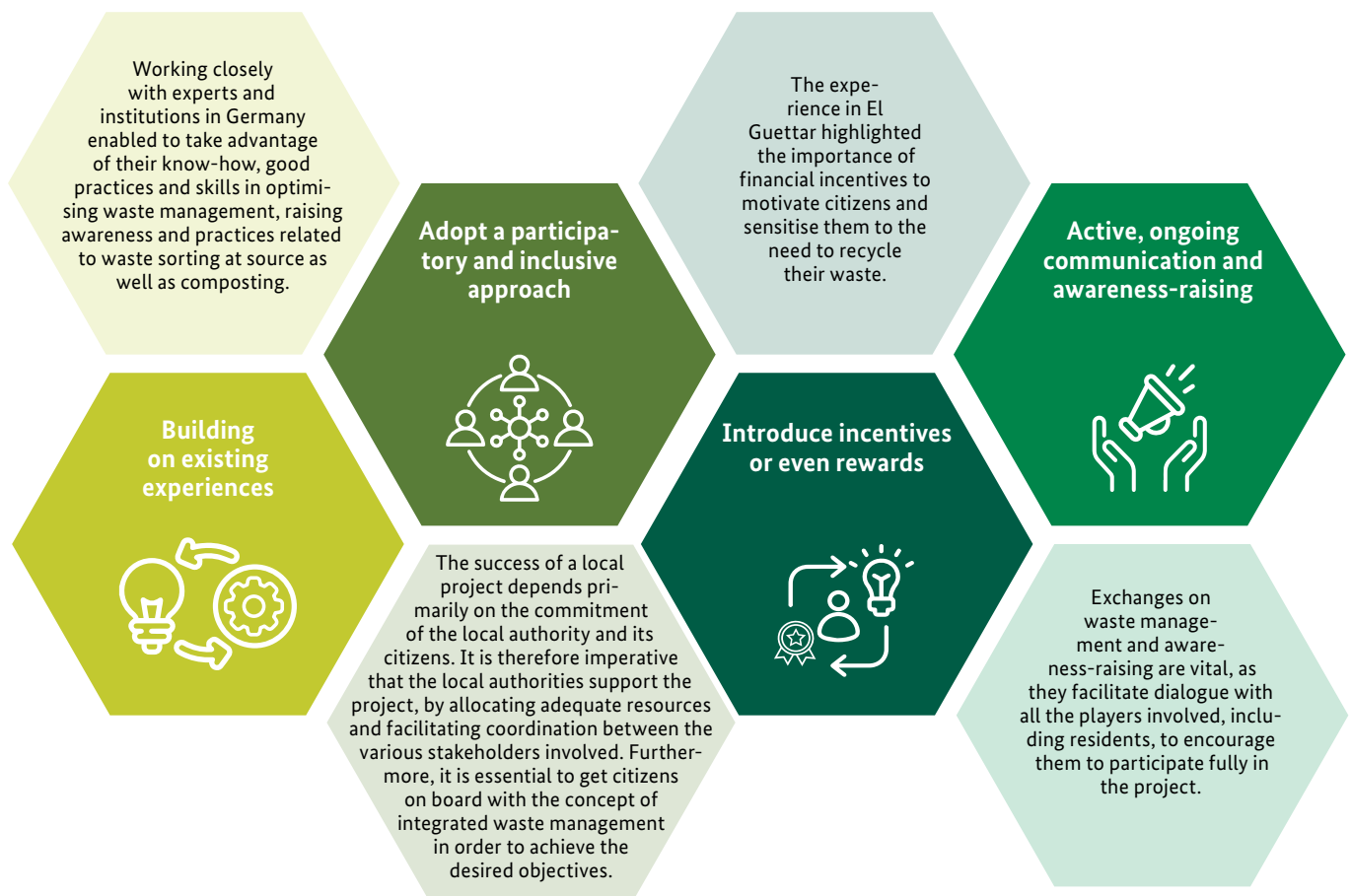


Diagram 06: Best practices, lessons learnt and advice. © GIZ

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