

Towards a circular economy: Elaborating an Integrated Waste Management Master Plan (IWMMP) in Oued El Aneb

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 Algeria, 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 fact sheet have been developed by the municipality of Oued El Aneb in the wilaya of Annaba. 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.



Setting up an Integrated Waste Management Master Plan (IWMMP) in Oued El Aneb

In Algeria, the regional project KWT II was implemented in collaboration with the National Urban Planning Agency (ANURB) of the Ministry of Housing, Urban Planning, and the City.

The Integrated Waste Management Master Plan for Oued El Aneb is part of the National Strategy for Integrated Waste Management to 2035 (IWMMP-2035), which is reflected at local level in the following objectives: (1) Reducing waste at source and developing a circular economy, (2) Zero waste in the environment by 2035. At Oued El Aneb, the development of this plan was supported by the regional project KWT II. In practical terms, this involved providing the municipality with experts who are specialised in urban waste management.

The main objective of the IWMMP was to put in place a management and decision-making toolbox. It also aimed to provide the municipality with a 10-year strategic vision for sustainable waste management. This approach made it possible to promote and even implement a global strategy geared towards the circular and sustainable economy.



Approaches and actions

The process of elaborating the IWMMP in Oued El Aneb followed the conditions and procedures established in the Algerian legal framework, as set out in Decree 07-205 of June 30, 2007. It was essential to set up a steering committee within the municipality to carry out this process, which was divided into three main phases:

a) Inventory and diagnosis: In-depth study of the local context of the municipality in terms of waste management, including in particular

- The review of national strategies, the regulatory framework and previous studies in place, combined with an urban analysis covering various aspects such as demography, geography and administration.
- An institutional analysis of the various stakeholders involved in waste management at municipal level.
- The identification of the urban activities that generate household and similar waste, followed by an analysis of the quantities and composition of waste produced in the municipality, as well as the individual production ratio.
- An in-depth diagnosis of the organisation and performance of the services responsible for managing household and inert waste



Left: Consultation between elected representatives and technical staff of the municipality to implement the new collection organisation plans, Oued El Aneb's Municipal People's Assembly headquarters.

Right: (02) elected representatives, (03) technical managers and (01) head of the collection unit of a public waste collection institution practising the use of the digital solution for monitoring waste collection routes.

in the municipality, using a grid of predefined key performance indicators, KPIs (diagram 01) presented in the form of fact sheets for each sector (sectorisation, human and material resources, treatment facilities, costs, etc.).

- An update on the implementation and effectiveness of the control and monitoring system, as well as the digitisation and communication strategies adopted by the municipality.
- Social surveys to gather citizens' concerns and suggestions.

b) Proposal for a new organisational management structure:

Formulation of customised solutions and guidelines relating to:

- the institutional and administrative aspects, including human resources and management methods, etc.,
- the quantitative and qualitative projection of waste as well as the estimation of the recoverable potential over a 10-year period,
- proposing organisational plans for sweeping, pre-collection, collection, transport and treatment of waste, as well as technological solutions adapted to the context of the municipality,

- introducing a system for waste sorting at the source, selective collection and the development of a waste recovery market,
- the maintenance and upkeep of the resources deployed,
- workers' health and safety,
- the digital transition and an effective communications strategy,
- drawing up a detailed action plan including responsibilities, deadlines and performance indicators

c) Estimating the financial investment needed: Assessment of the cost of implementing the solutions proposed in the previous phase.

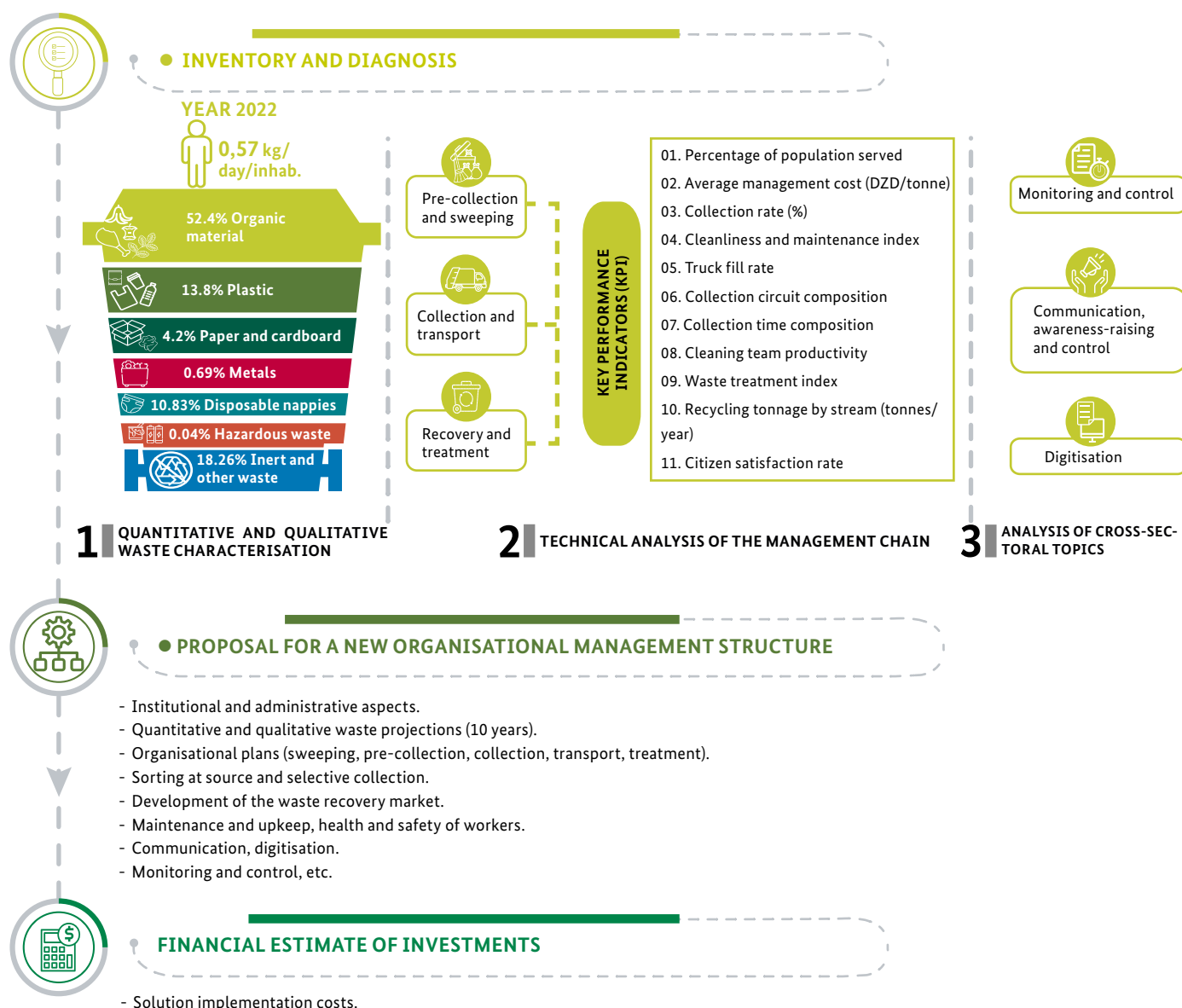


Diagram 01: Methodological approach. © GIZ



Achievements

The IWMMP of the municipality of Oued El Aneb has achieved the following results (diagram 02):



Diagram 02: Project's achievements. © GIZ



Challenges

Several challenges and obstacles requiring appropriate solutions were encountered (diagram 03):

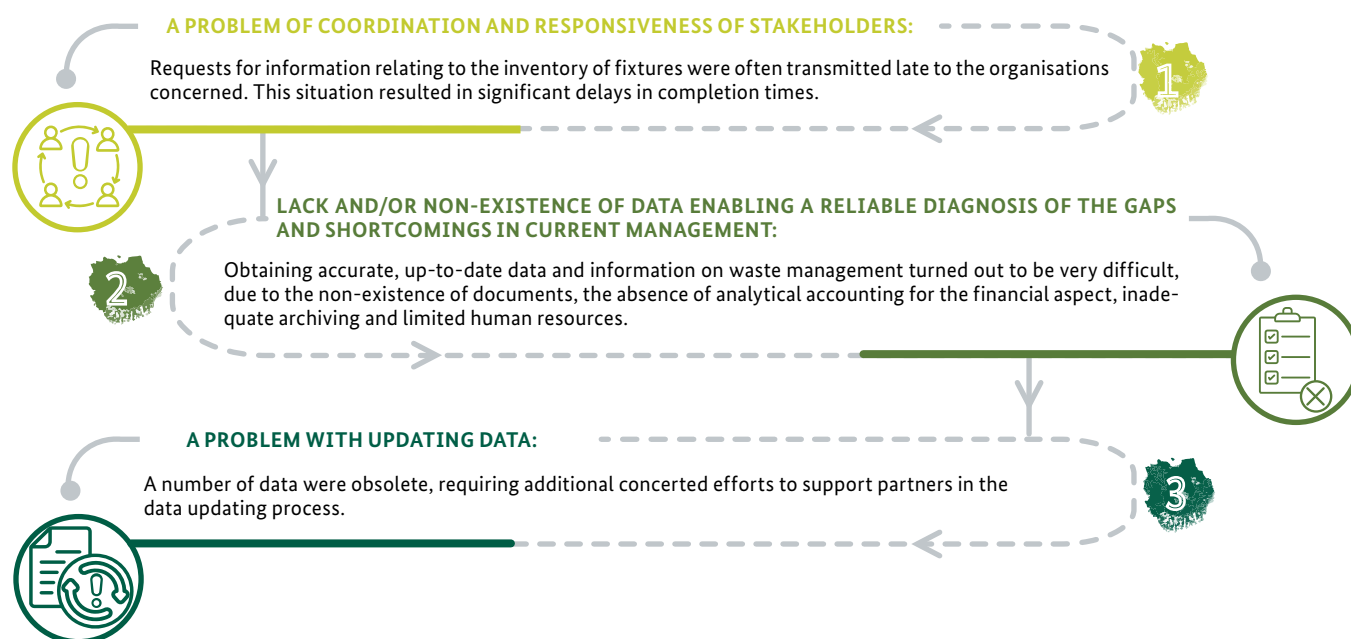
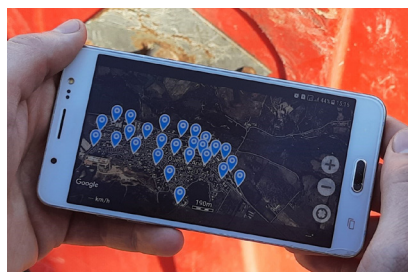


Diagram 03: Challenges overcome. © GIZ



Left: Digital overview of the waste collection route optimised using the open-source application "Geo Tracker", municipality of Oued El Aneb.

Right: Municipal staff adjusting old collection routes by geolocating waste collection points, municipality of Oued El Aneb

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Innovative aspects and strengths

The strengths of the project were diverse and crucial to achieving optimal waste management and sustainable urban development in the city (diagram 04):



1 INTEGRATION OF DIGITISATION

Several innovative ideas were put forward for digitising the waste management chain at municipal level.



2 OPERATIONAL MANAGEMENT TOOL

All proposed technical improvements are summarised in an operational booklet in the form of data sheets to facilitate the implementation of the study.



3 DECISION-MAKING TOOLBOX

The municipality obtained performance indicators for assessing the quality of the cleaning service.



4 A CLEAR 10-YEAR VISION

Quantitative and qualitative waste projections as well as estimates of management costs and recoverable potential over a 10-year period.

Diagram 04: Innovative aspects and strengths. © GIZ



Best practices, lessons learnt and advice

Several lessons have been learnt and best practices identified from the experience in Oued El Aneb which should be considered when implementing similar projects (diagram 05):

1

SET UP A STEERING COMMITTEE

This committee should be made up of representatives of the various organisations concerned. The aim is to support the experts during field missions, to facilitate the acquisition of the necessary data and/or information and, finally, to ensure the implementation of the solutions and guidelines resulting from the study.

2

DEVELOP THE CAPACITY OF THE STAFF INVOLVED

This made it feasible to obtain the most reliable data and information possible in the shortest possible time (analysis techniques using performance indicators, cost estimates in the absence of analytical accounting, etc.).

3

ADOPT A PARTICIPATIVE APPROACH

By involving all local stakeholders, in particular:

- Civil society organisations, with the aim of ensuring active community participation.
- Drivers and waste collectors, by conducting surveys to gain a better understanding of operational problems.
- The municipality's managers and delegated bodies, by discussing the overall feasibility of solutions and guidelines.

Diagram 05: Best practices, lessons learnt and advice. © GIZ

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