



Tunisia | ECO-LEF in Tunisia: a case study

The ECO-LEF system for managing packaging waste in Tunisia is an example of a state-run system; it has been operated by the national waste management agency, known as ANGeD (Agence Nationale de Gestion des Déchets), since 2001. Companies that introduce packaged products into the market have the option to contribute voluntarily to ECO-LEF, but are not obliged to do so. The private companies participating in the system do not play any active role in the management of ECO-LEF. Most of the recyclable material collected under the system is provided indirectly by waste pickers working in the informal sector. However, these informal pickers are unable to access ECO-LEF's storage points, and have to sell their recyclables to intermediaries for lower prices than they would otherwise achieve. The quantity of recyclable materials collected under the system (primarily certain types of plastic and aluminium) has decreased significantly since 2009. Currently, the ECO-LEF system is undergoing a process of reform.



Background

Tunisia is a lower middle-income country located in North Africa, with a total population of over 11.7 million.¹ Its coastline extends for over 1,148 km and it is a major tourist destination; 9 million tourists visited the country in 2019.

In the course of the decentralisation process initiated with the Constitution of 2014, new municipalities have been founded. Today there are 350 municipalities covering the country's territory and decision-making is transferred to the municipal level. The first municipal elections in May 2018 and the publication of the "Code des Collectivités locales" represent a first step in the decentralisation transition. Waste management has partly become the responsibility of the municipalities. In addition to the newly acquired competencies, however, municipalities require the

¹ <http://www.ins.tn/fr/themes/population>



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necessary budget to set up a functioning waste management system. In order to improve solid waste management systems, local authorities across the country will need to work together with the private sector and NGOs.

Current waste collection and recycling provision in Tunisia

Since the promulgation of **Law no. 96-41 on Wastes and the Control of their Management and Disposal²**, together with the associated legislation required to apply it, Tunisia has set up several systems for collecting and treating certain categories of waste and recovering valuable materials, one of which is known as **ECO-LEF**. In an effort to strengthen the waste collection and recycling industries, the Tunisian government has passed measures to encourage the creation of micro-enterprises in the sector in 2004.

The municipal-level waste collection rate across Tunisia is at almost 80%.³ The country's entire land area, including rural areas, is now covered by municipal-level services for collecting solid waste based on the decentralisation process through increasing the number of municipalities. Responsibility for waste management is devolved to local authorities. The country produces over 2.8 million tonnes of solid waste a year (Diagnostic, Solid waste management strategy, Ministry of local affairs, 2019), and this figure is increasing at the rate of 2.8% per year. According to the MLAE, about 80% of waste generated is disposed of appropriately, while about 20% is dumped in inappropriate areas or stays in the environment.

Waste is only separated at source in a small number of areas. A number of waste sorting projects have been set up since 2005 in an attempt to demonstrate the benefits of an organised sorting system, including those at Hay El Khadhra, Sidi Bousaid, Djerba and Tunis. One project that is appreciated by other communities that want to implement similar systems is the city cooperation between the Tunisian municipality El Guettar and the Waste Management Company of the district Böblingen in Germany. A first concept of plastic waste collection was put in place and permits to pay municipal taxes. Besides, a recycling centre with a small sorting unit has been opened in December 2019.⁴ The success of other projects was however limited, due to financial and organisational challenges.⁵

Despite all these efforts, 95% of all waste collected is landfilled or dumped. There are currently ten landfill sites and 56 transfer stations operating in Tunisia. However, three landfill sites (Monastir, Kerkennah and Djerba) and six transfer stations were closed due to protests in the aftermath of the Arab spring. Currently, there are no waste treatment facilities (e.g. mechanical-biological treatment or waste incineration plants) anywhere in the country.

Financing solid waste management in Tunisia

Details of the costs associated with the management of solid waste are patchy, as there is no analysis-based accounting system in place. Solid waste management in Tunisia is financed from various sources, including municipal taxes, the proceeds of a so-called 'eco-tax' and hotel taxes (particularly in areas popular with tourists). The following points are worthy of particular mention:

- As of 2017, only 27% of the population pays municipal taxes.
- The Depollution Fund (FODEP) is a special fund attached to the Tunisian Treasury and set up under Law No. 92/122 of 29 December 1992, which incorporated provisions on funding management in 1993. It is the main source for 80% of funding for waste treatment (landfills) and forms part of ECO-LEF. The eco-tax has to be paid on certain imported raw materials and unfilled packaging made of certain materials, such as plastic.

² Loi n° 96-41 du 10 juin 1996 relative aux déchets et au contrôle de leur gestion et de leur élimination

³ Diagnostic, Solid waste management strategy, Ministry of local affairs, 2019

⁴ <https://www.wtert.net/bestpractice/306/El-Guettar-Tunisia-Project-Partnership-of-the-Waste-Management-Company-Boeblingen-Germany.html>

⁵ WAMA-Net report, Waste separation experiences in Tunisia, 2019



- Hotels pay 2% of their turnover each year (1% to municipalities, 1% to a tourism protection fund) to cover various services, including solid waste management.
- The central government also contributes to funding.

Despite these different sources of funding, the financial resources currently available are not considered sufficient to manage current and future waste levels properly.

Legal basis

From a legal point of view, waste management in Tunisia is governed primarily by two pieces of legislation: the Local Government Code of 2018 and Law No. 96-41 of 10 June 1996 on Wastes and the Control of their Management and Disposal. The full list of laws governing the EPR also includes:

- Law 96-41 of June 1996 on Wastes and the Control of their Management and Disposal.
- Law 92-122 of December 1992 establishing a depollution fund (FODEP) and introducing an eco-tax.
- Law 97-11 of February 1997 promulgating the local taxation code.
- Decree 2317-2005 of August 2005, establishing a national waste management agency (ANGeD).
- Decree 97-1102 of June 1997, as amended by Decree 2001-843 of April 2001, on conditions and procedures for the take-back and management of used packaging bags and packaging material.

Plastic bag ban

As a response to the grave environmental problems caused by single use plastic bags, a Ministerial Council meeting on 18 December 2015 approved measures to reduce the use of single-use plastic bags and replace them with more environmentally-friendly alternatives.

A new government decree banning single use plastic bags was published in the Official Journal of the Republic of Tunisia (JORT) on 16 January 2020. The decree, known as Decree No. 32, was preceded by a series of measures that paved the way for its provisions. Since 1 March 2020, single use plastic bags (defined as bags with thicknesses of less than 40 microns or capacities of less than 30 litres, primary packaging bags more than 15 microns thick and oxo-degradable plastic bags) have been banned in supermarkets. On 1 January 2021 the ban will be extended to cover all forms of production, importation, marketing and storage activities.

EPR for packaging: the ECO-LEF system

About the system

ECO-LEF is a public system for the recovery and recycling of packaging waste, delivered in partnership with local authorities. It covers the collection of packaging waste under agreements with the national waste management agency ANGeD and the recycling of certain types of plastic waste, carried out under set terms of reference and in accordance with agreements in order to obtain monthly quotas of the materials concerned.

ECO-LEF focuses particularly on plastic and metal packaging items with capacities of 100ml and over. Most of its materials come in the form of drinks bottles (PET), milk bottles (HDPE), plastic films and bags (PP) and metal boxes (aluminium). Under the current system, producers and other companies contributing voluntarily to ECO-LEF are not involved in organisational decisions related to the system's operations.



Photo 1: A recycling truck in Tunisia (© cyclos 2018)

Financing of ECO-LEF

The ECO-LEF system is **governed by a decree** that specifies how packaging waste should be collected and managed. The initiative is **financed primarily from the eco-tax fund**.

In addition, the system also standardises conditions and arrangements for **taking back** and managing packaging bags and used packaging. **Companies that introduce packaged products into the market** are required to do one of the following:

- Recover the packaging themselves, in which case they are responsible for managing the used packaging they introduce to the market;
- Delegate this task to an authorised company, operating on their behalf.
- Use the state system for recovering used packaging.

Since producers contribute to ECO-LEF **on a voluntary basis, only a small part of ECO-LEF's budget comes from producer contributions**. Selling the collected materials also generates a small portion of the scheme's funding.

Collection of packaging waste within ECO-LEF

Under the ECO-LEF system, recyclable materials are collected by small companies that are approved and authorised by ANGeD. The authorised collection companies buy the materials from informal collectors known as 'Barbechas' and pay them immediately after the recyclables have been weighed. In practice, the collection companies sell what they collect to ECO-LEF, however, they are not under any obligation to do so. The quantities collected are brought to 'ECO-LEF points', a network of dedicated storage facilities and prepared for sale to recycling companies.



Figure 1: Quantities of waste collected under the ECO-Lef system (Source: Chaabane et al. 2019⁶)

As the graph shows, the quantities of waste collected under the ECO-LEF system have **decreased considerably since 2009** and amounted to just 3,400 tonnes in 2018. There are a number of reasons for this, including changes in the economy (such as material market and price), competition between ECO-LEF and private collectors, in addition to more waste management activity being carried out by informal collectors. Interest among recyclers in participating in the system has also dropped due to the decreased collected quantities. Furthermore, by the current ECO-LEF system, there is no obligation to carry out separate collection, and there are no mandatory targets for collection or recycling. The fact that the system is funded by voluntary contributions by producers putting packed goods on the Tunisian market, makes it also difficult for ECO-LEF to secure sustainable funding.

ECO-LEF and the informal waste sector

The recycling sector is currently driven almost exclusively by informal collectors/waste pickers known as ‘Barbechas’, who collect recyclable fractions from containers and/or landfills without having any legal status. The existence of this informal waste management sector is considered a sensitive issue in Tunisia. The Barbechas operate in both high- and low income districts of every city in the country. The conclusions of a recent analysis of formal and informal waste management activity are summarised in Figure 2 below.

⁶ Chaabane et al. 2019: Shifting Towards Sustainable Tourism: Organizational and Financial Scenarios for Solid Waste Management in Tourism Destinations in Tunisia: <https://www.mdpi.com/2071-1050/11/13/3591>

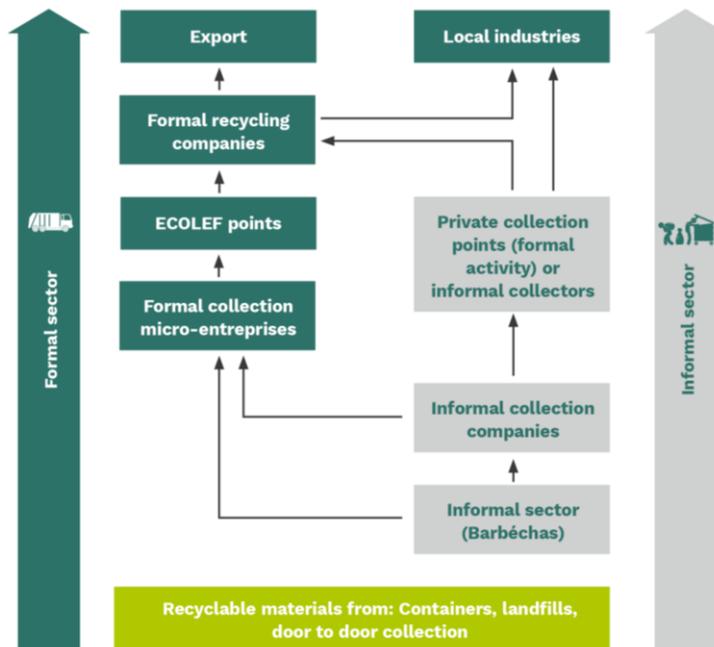


Figure 2: Material flows and role of the informal sector (Source: Chaabane et al. 2019⁶, own representation)

Informal waste collectors are not sufficiently involved in the current ECO-LEF system, despite their significant contribution to recovering materials and preserving the ecosystem. Incorporating the informal collectors into the formal economy could be beneficial for the Barbechas in terms of income and social security as well as for the Tunisian population at large in terms of public and environmental health and economic prosperity.

Under the current ECO-LEF system, Barbechas have no direct access to the system’s collection points, which are open only to holders of commercial licences approved by ANGeD. This means that **the majority of Barbechas cannot profit from the high prices guaranteed by ECO-LEF and are forced to work with intermediaries offering lower prices. ECO-LEF buys 1 kg for 750 millimes⁷, and sells the same quantity to the recyclers for 250 millimes⁷.** The government subsidizes 500 millimes per kilograms. The price is not flexible and does not take the materials’ market price changes into consideration.

Current challenges in the ECO-LEF system

The current ECO-LEF system offers potential for optimisation regarding several aspects, some of which are set out below:

- **Organisational set-up and responsibilities of stakeholders:**
 - **Only a few producers** are members of the ECO-LEF system, and they are not subject to mandatory fees. Contributions are made on a voluntary basis and are not monitored.
 - Producers are not involved in the organisational aspects of the system, meaning they cannot influence how ECO-LEF and its financial flows are managed.
 - **Consumers are not obliged** to comply with a specific separate collection system, since they are not part of the system and their responsibilities within the system are not clear.

⁷ 250 millimes equal about 0.08 Euro (as of Sept. 2020)

- **Lack of (reliable) data:**
 - **The total quantity of collected “packaging material” entering the waste system at national level is not calculated.** The available data only covers packaging waste collected officially under ECO-LEF and does not include collection by formal and informal private companies not member of the system. Also, the available data concerns the total mixed waste collected by the municipalities as well as the waste entering the landfills.
 - There is a **lack of accurate data** on the amount of packaging being introduced to the Tunisian market.
- **Financial sustainability:**
 - The system of payment for collection is not flexible enough to take into account variations in prices for recyclables, hence, currently, **ECO-LEF only becomes relevant to formal collectors when the prices offered by the private sector decrease.**
 - The cost of waste collection has to be covered by municipalities (local authorities) and the **financing model is unsustainable.**
- **Scope of and access to ECO-LEF:**
 - ECO-LEF **only accepts certain materials** with positive market values, such as foils, bags and PET beverage bottles. Other materials are not collected or recycled, and many resources are consequently lost.
 - **Waste pickers**, of which there are reckoned to be between 10,000 and 15,000 in Tunisia, **collect around 80% of the total packaging collected** but are not formally part of the system. They only collect materials with positive market values, such as PET and cans.
 - The system of payment for collection is not flexible enough to meet the needs of collectors and recyclers.
- **Littering is still a pressing and visible problem** everywhere, and the tourism sector as an important sector in Tunisia (beach resorts in particular) is affected by this highly visible pollution caused particularly by the non-collected packaging waste and the poor recycling infrastructure in the country.
- There is a **lack of incentives** for innovation or to expand the recycling industry in Tunisia.

Lessons learned

We can thus identify the following lessons from Tunisia’s experience:

- EPR systems should be based on a participatory approach involving multiple stakeholders. Producers must play an important part of the EPR system to ensure the organisation and a sustainable funding of the system.
- A clear legal framework is needed for the system to work effectively.
- Targets should be set in order to measure the success of the system.
- If stakeholders are given more than one way of fulfilling their obligations, there must be a system for checking exactly what action they are taking in this regard.



- Government should be more involved in the system to ensure that standards and targets are enforced.
- The responsibilities of all the stakeholder groups involved must be set out clearly.
- When setting up EPR systems in low- and middle-income countries, it is important to consider the role small-scale collectors and recyclers should play.
- Transparency is essential.
- The role of the municipalities/local authorities must be well defined, and its staff must be informed, educated and trained accordingly.
- The structure of the EPR should be flexible enough to adapt as necessary (e.g. to economic changes or technological developments).

Information correct as of June 2020

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