

City of Djibouti

The city of Djibouti is the capital and largest city of the Republic of Djibouti on the Horn of Africa. The city covers an area of 630 square kilometres and has a population of 531,499 inhabitants. Djibouti is a financial centre for many industries, including construction, retail, import-export, and money transfer. The fishing operations in the port of Djibouti constitute the main economic activity of the city, as the port is situated inside of the city's borders.

The Office de la Voirie de Djibouti (OVD) provides sweeping, collection, and disposal services. The informal sector is involved in Solid Waste Management (SWM) through the collection of recyclable household waste in poor neighbourhoods. The private sector, however, does not participate in SWM. The city of Djibouti's dumping site is located 15.5 km from the city centre. The waste brought into the disposal site is compacted and covered with soil.

Information

Population*	531,499 inhabitants (2015)
Population growth (annual %)*	1.9% (2010-2015)
Area (km ²)**	630
Climate**	Arid climate
Main industries**	Freight operations, construction, retail, import-export
Currency***	USD 1: DJF 177.71 (Djibouti franc) (September 2019)
Other****	In antiquity, Djibouti was part of the territory known to the ancient Egyptians as Punt (God's land), whose first mention dates back to XXV century BC. In the new era, Djibouti is described as a cosmopolitan country lodged between Arabia, the Indian Ocean, and Ethiopia. It is also one of the smallest states (23,000 km ²) in continental Africa; only Eswatini and The Gambia are smaller in terms of land.

Sources: * United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision, Online Edition.

** Wikipedia, Djibouti, accessed 9 September 2018, <https://en.wikipedia.org/wiki/Djibouti_city>

*** Oanda.com

**** Wikipedia, Geography of Djibouti, accessed 20 February 2019, <https://en.wikipedia.org/wiki/Geography_of_Djibouti>

Current SWM Situation

Item	Outline
Institutional System	
Legal system	<ul style="list-style-type: none"> The related laws and regulations for SWM are as follows: <ul style="list-style-type: none"> Code of Djibouti City Waste Management: basic principles and norms for solid waste.
Policy/Plan	<ul style="list-style-type: none"> Sanitation Policy in Djibouti City (2012-2019).
Implementation system	<ul style="list-style-type: none"> The Office de la Voirie de Djibouti (OVD) is in charge of managing solid waste in the city (street sweeping, collection, final disposal site operation, and road sign management). Number of employees in the department: <ul style="list-style-type: none"> 59 people work in administration offices. 590 people work in field operations. 15 people have taken courses on GDS and/or related courses at university/college. 396 people have been working in the GDS sector for 5 years or longer. The Ministry of the Interior is in charge of SWM. The Ministry of Health is responsible for the management of bio-medical waste. Private sector: The private sector is not involved in SWM. Informal sector: The informal sector is involved in SWM through the collection of household waste in poor neighbourhoods.
Technical System	
Waste generation amount & characteristics	<ul style="list-style-type: none"> Waste generation amount: 344 tons/day (data source: AFP, 2014). Waste generate rate in residential areas: 0.7 kg/person/day (data source: AFP, 2014). Waste collection amount: 299 tons/day (data obtained by a weighbridge at the disposal site). Waste composition: 37% food waste, 6% plastic, 2% paper, 4% textile, 5% wood, 3% metal, 13% glass, 32% other (e.g. ceramic, wood, rubber, and sand) (data source: JICA, 2015).
Storage and discharge/ Collection and transportation/ Road sweeping	<ul style="list-style-type: none"> Waste collection and road sweeping services are provided by the OVD in the city centre, residential areas, and major public areas. Waste from households: collected 7 days per week under a door-to-door collection system. Waste from commercial areas: collected 7 days per week. Waste collection ratio: 87% of the waste generated in Djibouti City is collected (data source: JICA, 2015). Separate collection systems are in place for municipal market waste, commercial and institutional waste, household waste, and pruned trees and grass. Number of collection vehicles: <ul style="list-style-type: none"> 26 dump trucks with a capacity of 10 m³. 8 dump trucks with a capacity of 15 m³. 6 tippers with a capacity of 10 m³. 4 hooklifts with a capacity of 20 m³. All vehicles are operational (100%). The waste collection coverage rate is 100%.

Item	Outline
Intermediate treatment/ Recycling	<ul style="list-style-type: none"> ● Project underway: a materials recovery facility (MRF) and 7 transfer centres are under construction in the commune of Balbala (the most populated area).
Final disposal	<ul style="list-style-type: none"> ● There is one dumping site in the city: Douda dump site. <ul style="list-style-type: none"> » Owner: OVD. » Location: Douda. » Area: 11 hectares. » Operation hours: 20 hours daily. » Waste disposal amount: 344 t daily. » Data source: obtained by weighbridge. » Installed facilities: geo-membrane, weighbridge, gate, fencing, etc. » Operation plan: a mid-term plan is established. » Operations in practice: compaction of waste and coverage with soil.
Financial system	<ul style="list-style-type: none"> ● Subsidies related to SWM from the central government to the local government: 3,798,540 USD/year.
Environmental and social considerations	<ul style="list-style-type: none"> ● Number of waste pickers working at final disposal sites: 50 waste pickers at the Douda landfill site. ● Public awareness-raising activities: The community is informed of the collection days, collection hours, and other details on how to discharge waste, through media outlets.
Donor support	<ul style="list-style-type: none"> ● JICA: Supply of waste collection equipment, equipment for landfill operation, specialised equipment, and spare parts. ● European Union (EU): Construction of the Technical Burying Centre (TBC). A project to extend the TBC is currently underway. ● French Development Agency (AFD): Rehabilitation of the technical base in the neighbourhood of 'Quartier 7'.
Areas for improvement (in order of priority)	<ul style="list-style-type: none"> ● Financial issues: <ul style="list-style-type: none"> Since the amount of waste generated is expected to increase as the population grows: <ul style="list-style-type: none"> » A sorting centre is required to decrease the amounts of waste sent to the dump site. » The collection points are disparately located, so transfer centres are required for better waste management. » Elsewhere, more collection and transportation equipment (e.g. trucks for regions such as Arta) are necessary to preserve the environment. ● Technical issues: <ul style="list-style-type: none"> » The current final disposal site is an open dump, requiring heavy machinery for compaction and soil coverage. » JICA's insight is much needed, which redoubles the need to build technical cooperation. ● Social issues: <ul style="list-style-type: none"> » More sensitisation programmes are necessary, as the city is planning to introduce systems for waste separation at source.

Waste Amount at Each Stage of Waste Flow*

Waste flow	Amount ** (ton/day)	Remarks
① Waste generation	344	Waste generated at houses, offices, shops, restaurants, etc.
② Discharge to collection	N/A	Waste discharged for collection services.
③ Self disposal	N/A	Disposal at generation sources, such as burning and burying.
④ Recycling at source	N/A	Reuse of materials, composting, sold to recyclers.
⑤ Collection and transport	299	Waste amount collected and transported.
⑥ Clandestine dumping	N/A	Waste illegally disposed of in unknown location.
⑦ Treatment	N/A	Material recycling, composting, incineration, etc.
⑧ Recycling/Reduction	N/A	Recycled and/or reduced waste amount by material recycling, composting, incineration, etc.
⑨ Residue	N/A	Residue from treatment facilities.
⑩ Final disposal site	N/A	Waste amount brought into disposal sites.
⑪ Recycling	N/A	Recycled at disposal sites.
⑫ Final disposal	344	Waste amount finally disposed of at disposal sites.

* Based on the waste flow chart on page.

** Figures include estimated value.