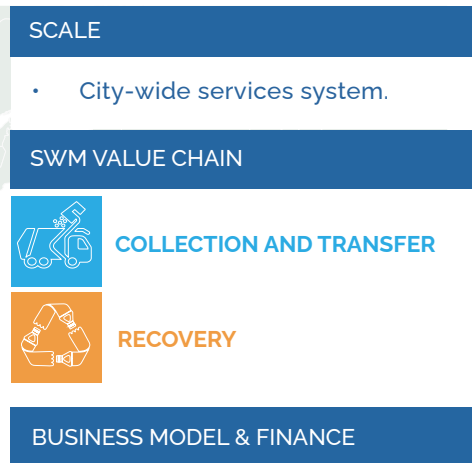
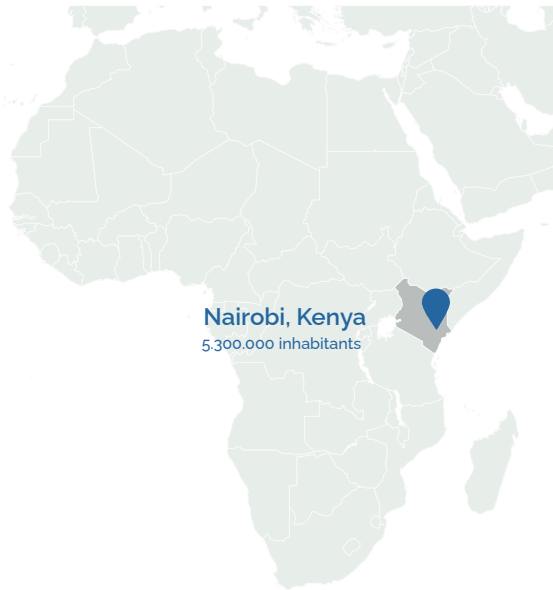


INTEGRATED SOLID WASTE MANAGEMENT NAIROBI, KENYA



- Self-sustainable compost & recycling operations with sales to the private sector.

PROJECT SUMMARY

Project scope

TakaTaka Solutions is a private business providing waste management services across all income areas in Nairobi

Their services include affordable waste collection, recycling, and composting, with the key stakeholders being TakaTaka Company and Nairobi City Council Government.

SOLID WASTE MANAGEMENT SYSTEM & VALUE CHAIN

TakaTaka Solutions is a Nairobi-based waste collection and resource recycling business. The company, founded in 2011, reports being the largest waste management company in East Africa.

TakaTaka operates three business units: Takacollect, Takacompost and Takaglass. The company recycles and composts 90% of collected waste, and creates jobs in lower income areas.

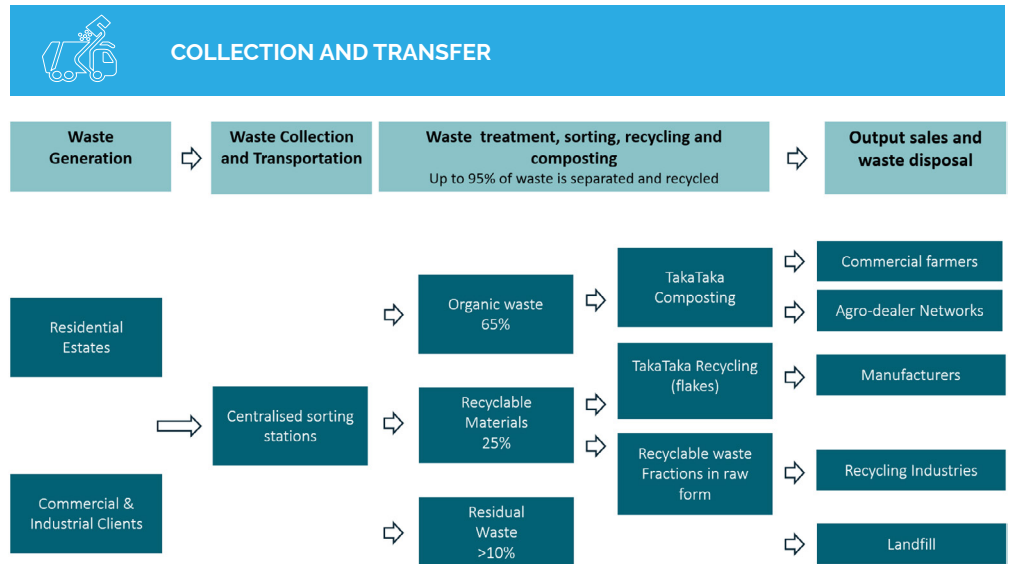


Figure 1: TakaTaka's role within Nairobi's SWM system.

TakaTaka Solutions collect waste door-to-door from residential and commercial areas, at market rates across all income areas of Nairobi. They operate a fleet of modern waste collection trucks, provide dustbins or bin liners to clients, and train

clients on waste separation. While the system currently does not cover the outskirts of Nairobi, residents in these areas can take their waste to TakaTaka public recycling points.¹

RECOVERY: RECYCLING AND COMPOSTING

After collecting waste from its clients, waste is sorted and compacted at the decentralised sorting stations owned by TakaTaka Solutions, before transporting it to their 3 processing plants. One of these is Kenya's largest recycling plant for single-use plastics, while organic waste from food and plants is processed at their compost plant.

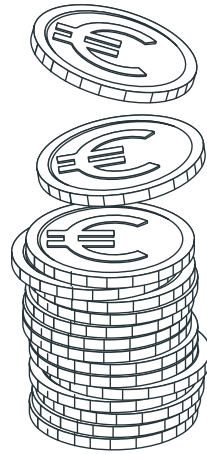
Nearly one third (30%) is recycled, with recycled plastics, including pellets or flakes, sold to local manufacturers. These recycled materials are used as feedstock (raw materials) to produce a range of products, including plastic containers and bottles. The remaining 10%, composed of residual waste, is disposed of at Nairobi's landfills for a fee. TakaTaka Solutions collaborates with local artisans and manufacturers to transform waste materials into products such as furniture, bags, and building materials.

Almost two-thirds (60%) of the collected waste is used as compost and sold to local farmers at prevailing market rates.

¹ - Recycling points do not take organic waste. The company does not co-operate with pre-collectors.

BUSINESS MODEL & SYSTEMS FINANCING

While TakaTaka required seed funding and investment to begin operations, it **is now self-sustainable**. Despite the presence of over 200 private players in Nairobi's waste industry, TakaTaka stands out as one of the few enterprises providing end-to-end waste management services.



Investment & operational costs²

TakaTaka Solutions received financial support from several organizations, including GreenTec Capital, a German-based impact investment firm that provided seed funding of EUR 468,000 in 2018. In 2019, Novastar Ventures, a Nairobi-based venture capital fund, contributed EUR 2.34 million. The Energy and Environment Partnership for Southern and Eastern Africa provided EUR 187,000, and in 2020, The Global Innovation Fund provided a grant of EUR 1.12 million.

The primary source of financing for TakaTaka Solutions has been equity (shares) contributions from the company owners. This equity financing has been supplemented with grants from development partners, including UNDP and the Global Environment Facility (GEF), to support its waste management operations.

TakaTaka has also benefited from loans. For instance, in 2018 they received a EUR 468,000 loan from the African Enterprise Challenge Fund to expand their waste recycling capacity and a EUR 121,000 loan from OpenRoad's Response. Other contributors include USAID, KfW, DEG, Siemens, Rockefeller Foundation, Dell Social Innovation Challenge, and Plug and Play Tech Center, all holding minority stakes.

For city garbage collectors to dump their waste at Dandora dump site the fee is about EUR 3.6 per tonne.

² - Costs and fees converted to Euros (EUR) from US Dollars (USD) and Kenyan Shillings (KES).

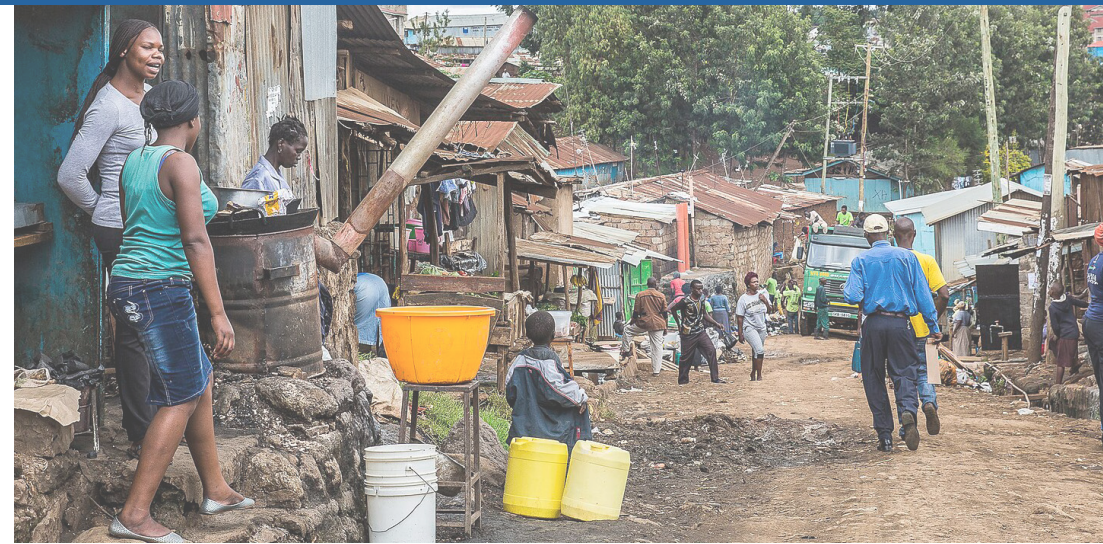


Figure 2: Image of Kibera neighbourhood, Nairobi (street view) by Ninaras (CC 4.0)

SWM System Financing

The company applies a **graduated fee system**. In poorer areas, residents pay EUR 0.7 (100 KES)/month, whereas

residents in middle- and high-income areas pay EUR 1.76 - EUR 3.52 per month (250 - 500 KES). The service difference lies mainly in the **collection frequency** and **the number of bin liners**

Business Model

TakaTaka is licensed by the Nairobi City Council Government to provide waste management services in the city. The company is thus authorized to collect, transport, and dispose of waste in designated areas, as well as to enforce waste management regulations. **Waste collection is not assigned to specific zones, allowing different service providers**, such as City Fresh from Sanergy, Ujamaa, and others, **to compete**, particularly in the dense city centre. Some of these providers also offer recycling solutions.

TakaTaka also **picks up waste collected by informal third-party waste pickers** to augment the quantity of waste it processes as well as to ensure that the waste is managed. TakaTaka has set up a collection facility near Nairobi's big dump sites (Dandora and Thika) to buy waste from waste pickers.

³ - Source: Report TakaTaka Solutions: Improving Resource Efficiency in Waste Management.

IDENTIFIED BENEFITS, RISKS & CHALLENGES

Main Benefits

- Waste collection from 8,000 households: 8 tons per day, 2,400 per month.
- More than 300 jobs with remuneration packages up to 1.5-2 times higher than other actors in the industry. By 2025, the current levels of TakaTaka's business growth will generate an additional 700 direct jobs and about 2,500 indirect employment opportunities. If the organization continues to sustain its growth levels, by 2030, there is potential to create an additional 1,500 direct jobs and well over 5,000 indirect employment opportunities.
- Provides natural fertilizer for local farmers to restore soil health and increase crop yield.

Main Risks & Challenges

- **Threat of competitors**, that may provide substitute products at a lower rate.
- **Difficulty in obtaining credit** for expanding activities.⁴
- **Challenges in enforcing waste separation at the source**. Due to lack of cooperation from clients, despite TakaTaka's efforts to provide separate bin liners. TakaTaka still needs to invest in the separation of dry and food waste.
- **Limited markets for some waste fractions due to the scarcity of industries using them as raw materials**. This poses a challenge for TakaTaka in disposing fractions that could otherwise be useful.
- **Heavy capital expenditure**: machinery required to set up an end-to-end waste management plant is costly, making it challenging to scale and grow quickly.
- **Challenges of accessing land**: municipalities in Kenya do not allocate land required for setting up sorting and waste management sites, and communities resist the location of facilities.
- **Limited understanding of the benefits of organic fertilizer**: farmers are unaware of organic fertilizer, necessitating intensive farmer education and behavioural change efforts to increase demand.

² - Costs and fees converted to Euros (EUR) from US Dollars (USD) and Kenyan Shillings (KES).



Figure 3: Image of Kibera neighbourhood, Nairobi (aerial view) by Kreuzschnabel (CC 3.0)



Read the **Solid Waste Management in Low and Middle-Income Countries: Practical Advice** booklet

Sources & further reading

- [TakaTaka website](#).
- Discussions with the TakaTaka CEO in the context of a cooperation programme.
- Visit the [Urban Knowledge Hub on Capacity4dev](#) to learn about other SWM case studies.
- View learning materials from the [SWM Training Webinar on INTPA Academy](#).



Urban Development Technical Facility, as part of INTPA F4

The UDTF focuses on supporting partner countries in their urban development challenges. It delivers technical assistance and policy advice to improve the quality and impact of the EU's interventions in urban development at all levels — local, regional and global— with a focus on Africa, Asia, and Latin America and the Caribbean. Integrated urban planning coupled with greener infrastructure and coordinated urban expansion can increase a city's urban resilience while minimizing the negative environmental impacts of human settlements.