ENHANCING WASTE RECOVERY



KENYA, NAIROBI



TakaTaka Solutions

TakaTaka Solutions, a Nairobi-based waste collection and recycling company, started in October 2011 and began its commercial operations in 2014. It has emerged as a prominent player in Kenya's waste management sector, both in terms of the volume of waste it manages and the size of its workforce. TakaTaka has developed a comprehensive waste management system, which involves collecting, separating, and sorting waste at its centralized sorting stations. As of now, the company has over 20,000 customers and manages up to 50-60 tons of waste every day.

TakaTaka Solutions has established itself as a leader in the waste management industry by offering comprehensive end-to-end solutions. The company operates a fleet of 10 trucks with two to four collection team members per truck, catering to a wide range of clients including residential areas and commercial establishments like hotels, restaurants, and shopping malls. Waste collection frequencies are customized based on client needs and contractual agreements, with larger clients such as malls receiving daily pickups. Additionally, TakaTaka has strategically placed compacting machines and employees at mall sites to streamline waste compaction and transportation processes. Waste not compacted on-site is transported to one of TakaTaka's sorting sites, where it undergoes mechanical separation using drum sieve technology. The company currently operates two sorting sites, with plans to open a third site. These sites can process up to 40 tons per day.

In addition to its waste collection and sorting operations, TakaTaka actively engages with third-party waste pickers to augment its waste processing capabilities and ensure proper waste management practices. The company also operates a recycling unit that converts certain waste fractions, such as single-use plastics, into pellets for various end-uses. This recycling operation employs over 25 people and involves sorting, cleaning, drying, and pelletization processes. Furthermore, TakaTaka has a central composting facility that converts organic waste into organic fertilizer and soil conditioners. The composting process includes separating organic waste into pig food and material for fertilizer production, with an average conversion rate of 30%. After maturation, the organic fertilizer is sieved, packaged, and sold under the brand name 'Soil Plus'.





IMPACTS TO ACHIEVE SDG 11.6.1

- 60 tonnes of MSW collected daily from households and commercial entities 4 districts from the Greater Nairobi Metropolitan area.
- Collection in residential areas is done twice per week, while commercial entities receive collection services daily.
- Waste from malls is usually compacted on-site and sold directly, especially if the waste fractions do not require much sorting.
- Collected waste is sorted into 40 different fractions:
 - 60% organic: processed at the compost plant;
 - 15% plastic: processed at the plastic recycling plant;
 - 19% recyclables: hand out to third party recyclers;
 - 1% hazardous: processed through incineration;
 - 5% residual: sent to landfill.
- 95% of the waste collected is recycled.
- High quality compost is sold to farmers.
- Processed plastic granulate is sold to plastic industries.





Source: TakaTaka Solutions

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- Recycling of 95% of the collected waste saves energy and resources, which translates into a reduction of around 84,000 tonnes of greenhouse gases each year.
- Air and water pollution from dumping or burning waste is also prevented.

INSTITUTIONAL SUSTAINABILITY

TakaTaka's growth strategy centers on scaling up the volume of waste collected, sorted, and generating value from waste fractions. Initially, its growth targets involve increasing waste collection and sorting volumes, which would not only enhance employee livelihoods but also contribute to financial sustainability. This short-term growth plan includes integrating more waste pickers into the model and expanding the number of residential and industrial clients served, thereby boosting revenues from waste collection and recyclable material sales. In the mid-term, TakaTaka aims to increase the value of waste generated by expanding its recycling capabilities to handle more waste fractions. In the long-term, the company envisions lateral expansion into waste management services beyond its current operations in Nairobi and geographical expansion into other Kenyan counties with high waste volumes. oΩ



TakaTaka Solutions is actively monitoring the entire waste management process, from collection and processing to output, as well as key economic indicators. This enables the company to gain insights into its operations, identify areas for improvement, and make informed decisions about future expansion. Based on this monitoring, TakaTaka is considering several growth strategies. It plans to open additional sorting sites to increase waste collection and processing capabilities. Additionally, the company aims to incorporate more waste pickers into its model, which not only supports local communities but also boosts waste sorting volumes. Furthermore, TakaTaka is exploring the possibility of expanding its operations to other cities, leveraging its successful waste management model to create positive impacts beyond its current area of operation.

APPROPRIATE TECHNOLOGY



- Sorting capacity per site: 2-3 tons/ sorting line/hour.
- Organic waste is processed at the compost plant following several steps: sorting during multiple steps to ensure clean input material, set-up into windrows which are frequently turned by a windrow turner to achieve aeration, after three months, the compost is sieved and checked for quality.
- Plastic waste is processed at the recycling plant, the only one in Kenya for single-use light plastic containers (i.e. yoghurt cups, fast-food trays).
 Plastic is turned into flakes or new pellets, following the steps: pre-sorting and quality control, crushing into smaller flakes, turbo washing, hotwashing at 90 degrees Celsius, washing and rinsing, drying and label removal, pelletising (melting of flakes into pellets).
- TakaTaka Solutions has established a network of more than 20 recycling centers spread across Nairobi, providing convenient locations for individuals and families to dispose of their recyclable materials.



Source: TakaTaka Solutions

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FINANCIAL SUSTAINABILITY

TakaTaka Solutions generates its primary income from three main sources: waste collection fees, sales of recyclable materials, and sales of bins and liners. The largest portion of the company's revenue historically comes from waste collection fees, accounting for approximately 80% of the total annual revenue. The second significant income stream is from the sale of recyclable materials, typically contributing around 13% to the total revenue. Revenue from composting sales, although a newer addition to the revenue streams, has been relatively modest in comparison.

TakaTaka's financing partners for both grant and debt financing include leading development players such as USAID, KFW DEG, and Siemens Stiftung, as well as financial institutions.

STAKEHOLDER INVOLVEMENT / INCLUSION OF INFORMAL WASTE SECTOR



TakaTaka Solutions prioritizes stakeholder engagement to support its sustainable waste management mission. This includes working with local communities, private sector partners, farmers, and authorities to foster partnerships and tackle shared challenges. For instance, through the ExperTS Programme, TakaTaka has gained valuable insights and formed new partnerships, such as with a hotel chain, to promote sustainable waste management practices.

The company also focuses on social impact by providing employment to marginalized youth, particularly women, in the waste management sector. Currently employing 350 individuals, half of whom are female, TakaTaka offers benefits like health insurance to its employees, contributing to gender equality and economic empowerment.

Additionally, TakaTaka engages informal waste collectors by purchasing recyclable materials from them, helping to formalize their work and ensure a steady supply of materials for recycling.

SOURCES



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- Open Road Alliance https://openroadalliance.org/case study/takataka-solutions/





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