

Solid Waste Management Country Profile

Tonga

BACKGROUND

Tonga had a population of 100,651 according to the 2016 census, and of those, 23,221 people lived in urban areas. Tongatapu is the island where the capital city of Nuku'alofa is located. The island's population was 74,611, constituting 74% of Tonga's total population. This had increased from 73% in 2011¹. The land area of the country is 748 km². There are three main island groups—Vava'u, Ha'apai, and Tongatapu—and 172 individual islands, stretching 600 km from north to south and 200 km from east to west. The GNI per capita is USD 6,520 (2018), and the main industries are agriculture, fishing, and tourism.

INSTITUTIONAL ARRANGEMENTS

The laws and regulations related to waste management in Tonga are as follows:

- Waste Management Act 2005
- Environment Management Act 2010
- Environment Impact Assessment Act 2003
- Environment Impact Assessment Regulation 2010
- Biosafety Act 2010
- Hazardous Wastes and Chemicals Act 2010
- Environment Management (Litter and Waste Control) Regulation 2016
- Waste Management (Plastic Levy) Regulations 2013
- Public Health Act 2008

Under the Public Health Act 1992, the Department of Health had jurisdiction over waste management for all the urban areas of the islands. Subsequently, the Waste Management Act 2005 was enacted. The Act stipulated that the Minister of Environment should designate waste management service areas with the advice of the Minister of Health, and the Minister of Health should approve organizations providing waste management services. In Tongatapu Island, where the capital city is located, Waste Authority Limited (WAL) was assigned to establish, improve, maintain, operate, and manage the collection and disposal of

all waste in accordance with the law.

WAL also started providing waste management service in Vava'u in April 2018. And in 2020, service was started in 'Eua (in October) and in Ha'apai (in November). Waste management on other outer islands is under the jurisdiction of the Ministry of Health (MOH).

TECHNICAL ASPECTS

Waste Collection and Transfer

The population of Tongatapu Island is about 75,000, and household waste is collected by WAL once a week, except weekends and public holidays. In addition, WAL and private collection companies provide services for the collection of commercial and industrial waste by contracting directly with the businesses discharging waste. WAL has three 8 m³ compactor trucks and three open trucks with a payload of 2 tons for collection. In Tongatapu Island, residents put waste in heavy drums, large containers, or plastic bags, then place these along the roads.

Most commercial and industrial waste is delivered to landfill by a private waste management company. The cost of disposal is billed by WAL to the private waste management company on a monthly basis.

Waste Final Disposal

The Tapuhia Landfill is located about 11 km from the capital city of Nuku'alofa and was originally the site of a



Tapuhia Landfill (2019)



quarry. Currently, about 52.9 tons (0.768 kg per person) of waste is transported into the Tapuhia Landfill every day.

The Tapuhia Landfill site started operation as a sanitary landfill site in mid-2007 with the assistance of the Tongan government and Australia. And it was planned to be available for 40 years. The solid waste to be disposed of is rarely mixed with organic waste, as most households use kitchen waste as livestock feed, and thus the structure of this landfill is not equipped with gas venting tubes. The leachate is collected by a collection tube at the bottom of the cell and pumped up to the leachate treatment pond (oxidation pond) for treatment. A second cell was constructed and started operation in 2015 under the Nuku'alofa Urban Development Sector Project. The cell is still in use.

Waste Recycling

In Tonga, one private recycling company collects recyclable materials. Material resources such as waste batteries, waste oil, aluminum, and paper and cardboard are collected on Tongatapu Island and Vava'u's main island. The recycling company exports aluminum, paper and cardboard, and other resource materials to New Zealand. Waste oil is sent to India and waste batteries are sent to South Korea and New Zealand.

In recent years, the government has taken the initiative in collecting scrapped cars and searching for suitable export destinations.

to be collected together with water fees in 2012. Only a certain number of households were billed by water meter, however, and this source of revenue remained chronically inadequate. In October 2015, the three utilities—Tonga Power Authority, Tonga Water Authority, and WAL—were united with a single board of directors, and the new board members elected in 2016 approved the collection of waste management service fees together with electricity fees from April 2016, in order to collect them more efficiently.

Meanwhile, a plastic levy was enacted in 2013 under the Waste Management Act and this regulation imposed a 10% levy on the import of certain plastic products, with all resulting tax revenue going to WAL. As a result, no government subsidies have been provided to WAL since 2013.

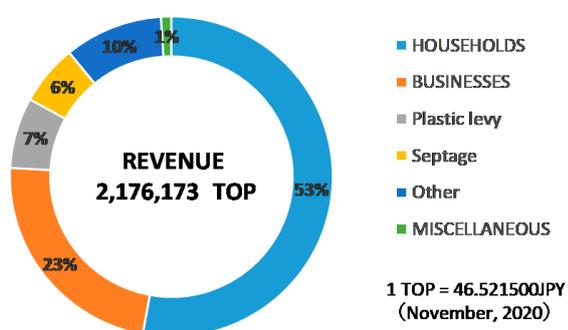
In September 2019, the board approved an overall increase in waste management service fees (see table below).

Service type	New service charge (TOP)
Residential/household customers: Collection & disposal	15 (including tax) Per month
Small businesses: Disposal	64 Per month
Large businesses: Disposal	200–800 Per month
Hospital waste: Disposal	780 Per load (TBC)

This will increase revenue, particularly from the residential and business sectors.

FINANCIAL ASPECTS

Breakdown of WAL revenue (July 2018–March 2019)



Source: WAL Business Plan 2019/20

At the time of its establishment in 2006, WAL's financial resources for waste management were directly collected from beneficiaries through waste fees. However, the funds collected were insufficient to cover the expected activities. For this reason, waste management fees started

RURAL AREAS

Vava'u

WAL started waste management service in April 2018 on the main island of the Vava'u Islands, which is Tonga's second largest city. WAL owns two collection vehicles and one open truck, and provides a weekly collection service to each household. Residents put bins out along the side of the road in front of their homes. Basically, it is a door-to-door collection. In order to prevent stray dogs and other animals from littering the area, residents set up platforms 80 to 100 centimeters high and put garbage bags on the platforms.



Waste collection in Vava'u (2019)



Kalaka Landfill (2019)

WAL also collects bulky and commercial waste. The illegal dumping that used to be scattered around the island has been cleaned up since WAL started its waste collection service, and the living environment is much improved.

The collected waste, which amounts to around 8 to 9 tons per day, is taken to the Kalaka Landfill. The landfill is constructed with a perimeter embankment made of waste, and has an administration building at the entrance to manage incoming waste. The leachate treatment method is basically a palm-lined channel to an oxidation pond.

The system for waste management service fees is the same as in Tongatapu Island, where waste fees are charged together with electricity fees. On average, the rate of fee collection is 70–80% in Vava'u. In addition, Vava'u has a trading port, where a tax is imposed on designated plastic products; the entire tax revenue goes to WAL.

Moreover, Vava'u is a tourist destination for private yachts. Since July 2018, therefore, WAL and the local customs office have worked together to collect waste management service fees for cruise ships. The fees are TOP 25

per week per ship, or TOP 50 for 2-3 weeks, and after the third week, TOP 2 per day is charged per ship.

Other outer islands

In other outer islands except Vava'u, Ha'apai, and 'Eua, waste collection by WAL has not been implemented yet. In many places, garbage is burned in backyards and bulky waste is illegally dumped in neighboring vacant lots.

PUBLIC AWARENESS

Public awareness-raising is mainly carried out by the Environment Department of the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) and WAL. WAL encourages residents of the service area to discharge their waste appropriately and reduce the amount of waste they generate. In addition, it conducts a wide range of educational activities by uploading information to social networking sites about open burning, illegal dumping, the 3Rs², composting, and the need to keep Tonga beautiful, green, and healthy.

CONCLUSIONS

On Tongatapu Island and Vava'u, the collection of waste fees and the imposition of a plastic levy secure the necessary financial resources for the operation of the waste management service. The funds have been used to implement a sound waste management operation.

✓ Waste fee collection system

In order to collect waste fees efficiently, waste management service fees have been collected together with electricity fees since 2016. This has enabled WAL to overcome a chronic shortage of financial resources and use the resulting revenues to provide a stable waste management service on Tongatapu Island. Based on this system, WAL subsequently rolled out a similar system on the Vava'u Islands in 2018. WAL is expected to expand its waste management services to other outer islands in the future.

✓ Operation and management of the landfill

The Tapuhia Landfill maintains stable operations and management by making the most of its limited facilities. Its staff share operational management know-how with staff at the Kalaka Landfill to improve overall capacity. At Tapuhia Landfill, details of incoming vehicles



and estimates of the amount of incoming waste have been recorded for more than three years. WAL has been utilizing the resulting data to formulate a business plan for extending waste management services to the outer islands. In order to further enhance this experience and expertise, it is recommended that even more accurate data should be obtained by repairing and utilizing the currently broken weighbridge.

✓ **Recycling**

Private recycling companies collect and export recyclable materials. But it is necessary to create a system for increasing the number of eligible materials and the amount collected. For example, it is worth considering the introduction of a deposit-based beverage container recycling scheme along the lines of those being implemented in the neighboring countries of Oceania.

✓ **Development of a national waste management strategy**

Tonga's national waste management strategy is still in the draft stage. The direction and institutionalization

of waste reduction policies and the development of a plan for expanding waste management to outer islands have not yet been formulated. Therefore, the national waste management strategy should be finalized as soon as possible in order to increase independence with regard to policymaking and institutional development.

✓ **Waste management on outer islands**

Collection services are still not available in areas other than Tongatapu, the main island of Vava'u, 'Eua, and the main island of Ha'apai. In addition, there is no proper management of waste disposal sites in outer islands except Tongatapu and the main island of Vava'u due to the lack of heavy machinery. It is necessary to allocate human resources, materials, and equipment appropriately to ensure proper management.

¹ Tonga 2016 Census of Population and Housing

² Reduce, Reuse, Recycle

August 2022



Contact Us:

J-PRISM II Project Office

Office: c/o P.O. Box 240, Secretariat of the Pacific Regional Environment Programme (SPREP), Apia, Samoa

Telephone: (685) 21929 (ext. 324),

Website: <https://www.sprep.org/j-prism-2/home>



SPREP
Secretariat of the Pacific Regional
Environment Programme