



# Solid Waste Management in the Pacific Fiji Country Snapshot

## BACKGROUND

Fiji had a population of around 858,000 in 2012. This assessment focuses on solid waste management (SWM) in Fiji's capital, Suva City, which has a population of about 86,000. Fiji's per capita gross domestic product was estimated at F\$6,594 (around \$3,561) in 2011.<sup>1</sup>

## TECHNICAL ASPECTS

Suva City generates 65–68 tons of waste per day, including green waste. More than 80% is organic waste from vegetables, food, market waste, and fibers. Another 16% is paper and cardboard wastes.

### Waste Collection

Municipal solid waste is stored by residents and commercial establishments in small bins (generally of 60-liter capacity) and plastic bags kept outside the house on raised platforms to keep the waste safe from dogs, or simply on the curb, until it is collected by the Suva City Council (SCC). Under the street litter bin sponsorship program, companies provide funding for public litter bins in exchange for placing advertisements on these bins. Household refuse collection is carried out directly by the SCC using its own fleet of six compactors and two covered trucks. Waste collection services are provided by SCC three times per week in all areas, except for the central city area, where services are provided six times per week.

Suva City is divided into four SWM wards that are further divided into 10 sectors. In each sector, a private sector contractor has been appointed on a 4-year contract for collection and transportation of green waste, grass

cutting, drain cleaning, and street sweeping. Green waste collection services provided to residents have been reduced to just once a month by the SCC to encourage composting. Residents and businesses may also make additional arrangements with one of five private companies for waste collection and transportation.

However, illegal dumping and burning of waste are still common due to inadequate enforcement. The 2010 amended Littering Decree allows the Department of Environment (DoE) to appoint public officials, including police officers, health inspectors, and land transport officers, as “litter prevention officers,” with the power to impose on-the-spot fines of F\$40 (around \$21.60) for littering.

### Waste Disposal

The wastes collected by SCC are disposed of at the sanitary landfill at Naboro. The landfill, located 24 kilometers from central Suva, also serves Lami; Nasinu; and Nausori towns, as well as Navua and Korovou. All residential and industrial wastes can be deposited at the landfill if it meets the acceptance criteria established by DoE.

The anaerobic landfill was developed at a cost of about F\$14 million (around \$7.56 million) with funding from the European Union, and began operations in October 2005 after the closure of the Lami dump. The landfill has a life of at least 70 years. It covers an area of 7 hectares in the current first stage and will cover 38.2 hectares in another four stages.

The landfill receives 184 tons of waste per day, of which councils account for about 70% and waste management companies for 30%.

<sup>1</sup> ADB. 2013. *Key Indicators for Asia and the Pacific 2013*. Manila.



Photo by M. Iyer

Naboro landfill

The landfill is owned by the Government of Fiji, and its operation falls under the responsibility of DoE, which contracts out landfill management to the private sector. During the first contract from 2005–2010, the landfill was operated by a company on a lump sum basis for the disposal of 100,000 tons of waste per year. However, actual waste received at the landfill was only 57,000 tons per year (Ministry of Local Government, Urban Development Housing and Environment. National Solid Waste Management Strategy 2011–2014. Government of Fiji. Suva.) When the contract was renewed, weight-based charges and operator charges were introduced as follows: (i) F\$26 (around \$14) per ton for general and green wastes; and (ii) F\$46 (around \$25) per ton for special waste, which includes expired drugs, asbestos, fish wastes, and government documents.

The operating face of the landfill is kept as small as possible, as this region is prone to rains throughout the year. Green waste is used as daily cover, while interim clay cover is laid once a week. The operator monitors leachate and water quality in an upstream creek and wetland and three wells downstream on a daily basis, and reports once a month to DoE.

There is no large-scale treatment facility at either Naboro or Suva for the high proportion of organic waste. In December 2012, SCC launched a home composting initiative to reduce the volume of green waste and kitchen scraps transported to the landfill for disposal. With funding from the Global Environment Fund's Small Grants Facility, residents can buy home composting units for a subsidized price of F\$30 (around \$16). A small-scale recycling pilot project has been supported by the Japan International Cooperation Agency since 2008.

In its 2014 budget, the government has also allocated F\$1 million (around \$540,000) for preparatory work to support the establishment of a transfer station in Nasinu. Councils within the Greater Suva Area can transport waste to the transfer station, before it is sorted, and taken to the landfill using larger vehicles. It is estimated that the transfer station could result in SCC only having to make 10% of trips that it currently makes to the landfill. It is expected to result in significant cost savings.

### Other Waste Streams

There are no specific guidelines for collection, treatment, and disposal of waste from electrical and electronic equipment. However, SCC conducts a special collection drive for e-waste, white goods and non-garden refuse, such as metal drums and tires, twice a year under its “Keep Suva Clean Campaign.” The schedules are announced in advance.

The Central Board of Health (CBH), under the Ministry of Health, is responsible for collection, treatment, and disposal of biomedical waste from three regional hospitals in Fiji, including the Colonial War Memorial (CWM) Hospital in Suva. A CBH vehicle collects wastes from all the government hospitals around Suva to be incinerated at the CWM hospital. The incinerator at this hospital has a single chamber with a loading capacity of 260 kilograms (kg) a day. The ash from the incinerator is disposed in designated cells at the Naboro landfill. Since the CWM incinerator is old and inefficient, a new incinerator with a capacity of 150 kg a day is being installed at Tamavua Hospital as a backup.

Under a joint partnership between Coca Cola-Amatil (Fiji) and Fiji Water, 60 kg collection sacks are provided for the collection of plastic bottles and aluminum cans. Coca Cola-Amatil (Fiji) pays F\$0.75 (around \$0.41) per kg for these recyclables if the company arranges to pick-up the sacks; or F\$1 (around \$0.54) per kg if sacks are delivered to their factory, which are then exported to New Zealand. House-to-house beer bottle collection services are also provided by small operators for locally produced beers, which are returned to the local brewery for recycling. About 10 licensed scrap metal dealers buy scrap metals like iron, copper, and aluminum, for export. South Pacific Recyclers is the only licensed waste paper recycling company in Fiji, and has been in operation since January 2012. Since 2009, the Punjas Group of Companies has processed waste food oil to manufacture biodiesel, which is sold at two petrol pumps, mainly to councils and corporate entities.

The DoE also plans to introduce a container deposit scheme for polyethylene terephthalate bottles, which is being supported by the United Nations Development Programme.

## INSTITUTIONAL ASPECTS

Under the Environmental Management Act 2005, and 2007 Environmental Management (Environmental Impact Assessment, and Waste Disposal and Recycling) Regulations, DoE, under the Ministry of Local Government, Urban Development, Housing and Environment, has the

authority for waste management and pollution control. In addition DoE, is responsible for setting criteria and guidelines for landfill and dumpsites. Under the Public Health Act, the CBH is responsible for monitoring of proper disposal of wastes to minimize risks to public health. Also, under Section 52 of the Public Health Act, councils are required to seek endorsement of the CBH for by-laws that cover charging of fees for solid waste collection.

The National Solid Waste Management Strategy, 2011–2014 outlines a vision for the management of solid waste in Fiji, and includes goals and associated actions for achieving the sector vision.

Under the Local Government Act, city and town councils are responsible for the management of solid waste. The Act requires councils to “do all such things as it lawfully may and as it considers expedient to promote the health, welfare, and convenience of the inhabitants.” Councils are permitted under the Act to make by-laws for these purposes. Councils also play a vital role in protecting the environment through enforcement of the Litter Decree 2010, Public Health Act, and Open Fires by-laws; recycling activities; collection of garbage; and provision of other services, such as street sweeping.

SWM in Suva City is carried out by the Operations Section of the Health Department, SCC. The section, headed by the senior health inspector, deals with collecting and disposing of garbage and green waste at Naboro landfill; cleaning and maintaining city streets, parks, reserves, public drains, creeks, and city public conveniences; emptying gully pits and septic tanks; promoting health, public awareness,



Disposal of white goods in Suva remains a challenge

Photo by M. Iyer

and community participation; and dog control. The Sanitation Section deals mainly with inspection of premises; and enforcement of relevant laws, including the Litter Decree 2010 and Public Health Act. The Operations Section comprises 36 full-time staff and 70 other workers (working on an hourly basis and paid weekly) for SWM. There are also nine full-time staff at Samabula Depot, who are responsible for vehicle maintenance and record keeping.

In terms of future policy and regulatory initiatives to improve the management of solid waste, Fiji is expected to introduce regulations to control plastic bags, and to implement the proposed container deposit scheme.

## FINANCIAL ASPECTS

City and town councils must cover the costs of providing SWM services within their municipal areas. In Suva, rates which consists of a general rate and special rate, are levied according to different categories of ratepayers: residential, commercial, industrial, civic, educational, and special. In 2012, the general rate was F\$0.025 per F\$1 (\$0.54) of assessed unimproved value of the property in Suva and the special rate was F\$0.015 per F\$1 (\$0.54) unimproved value. Under the Suva (Garbage Disposal) By-Law 2009, the council also levies annual fee of \$28.15 (around \$15) per bin to cover garbage collection and disposal costs.

In general terms, Suva City's municipal cleansing costs account for on average 18% of the total municipal budget of F\$21 million. This is inclusive of grass cutting in public spaces. After establishment expenses, the major cost is the transportation of solid waste to the Naboro landfill. However, with the construction of the planned transfer station in Nasinu, transportation cost savings of around 24%–30% may be achieved. In 2009–2010, the SCC incurred substantial costs to upgrade its fleet of compactor trucks by investing in six new vehicles at an average cost of F\$210,000 (around \$113,400) per truck.

Commercial and industrial customers typically pay for waste disposal through gate fees charged at the Naboro landfill. However, solid waste disposal costs are not fully recovered through gate fees at the Naboro landfill, or from the council charges. As a result, annual government subsidies of F\$1.2 million (around \$650,000) are needed to support landfill operations. In the 2014 budget, the government has allocated F\$3.4 million (\$1.8 million) to support future expansion of the Naboro landfill to cater to solid waste disposal requirements of the Central Division over time.

## PUBLIC AWARENESS

DoE plays a key role in public awareness related activities. DoE is preparing a comprehensive communication strategy for container deposit legislation, and options to reduce single-use plastic bags. The SCC has carried out awareness drives for waste reduction, reusing, recycling, and composting. Communication and awareness materials have been prepared by the SCC under its waste minimization program.

Live and Learn, an environmental education nongovernment organizations, runs SWM awareness programs in schools and also supports some school composting initiatives. The Young Women's Christian Association encourages composting and making handicraft items using plastic waste.

## CONCLUSIONS

Fiji, and Suva City, in particular, has achieved important improvements in SWM in recent years. The new landfill in Naboro has significantly reduced environmental and public health risks. Waste collection services provided by the SCC are reasonably efficient, well-managed, and financially self-sustaining. However, illegal dumping and burning of wastes continue to be problems due to inadequate enforcement. Recent amendments to the Litter Decree 2010 have helped to deter littering through the imposition of on-the-spot fines. Key priorities for strengthening the management of solid waste will be greater efforts to promote recycling, particularly through the planned introduction of a container deposit scheme. The proposed new transfer station will also support improved recycling efforts by reducing the volume of recyclables that enter the landfill. ■

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