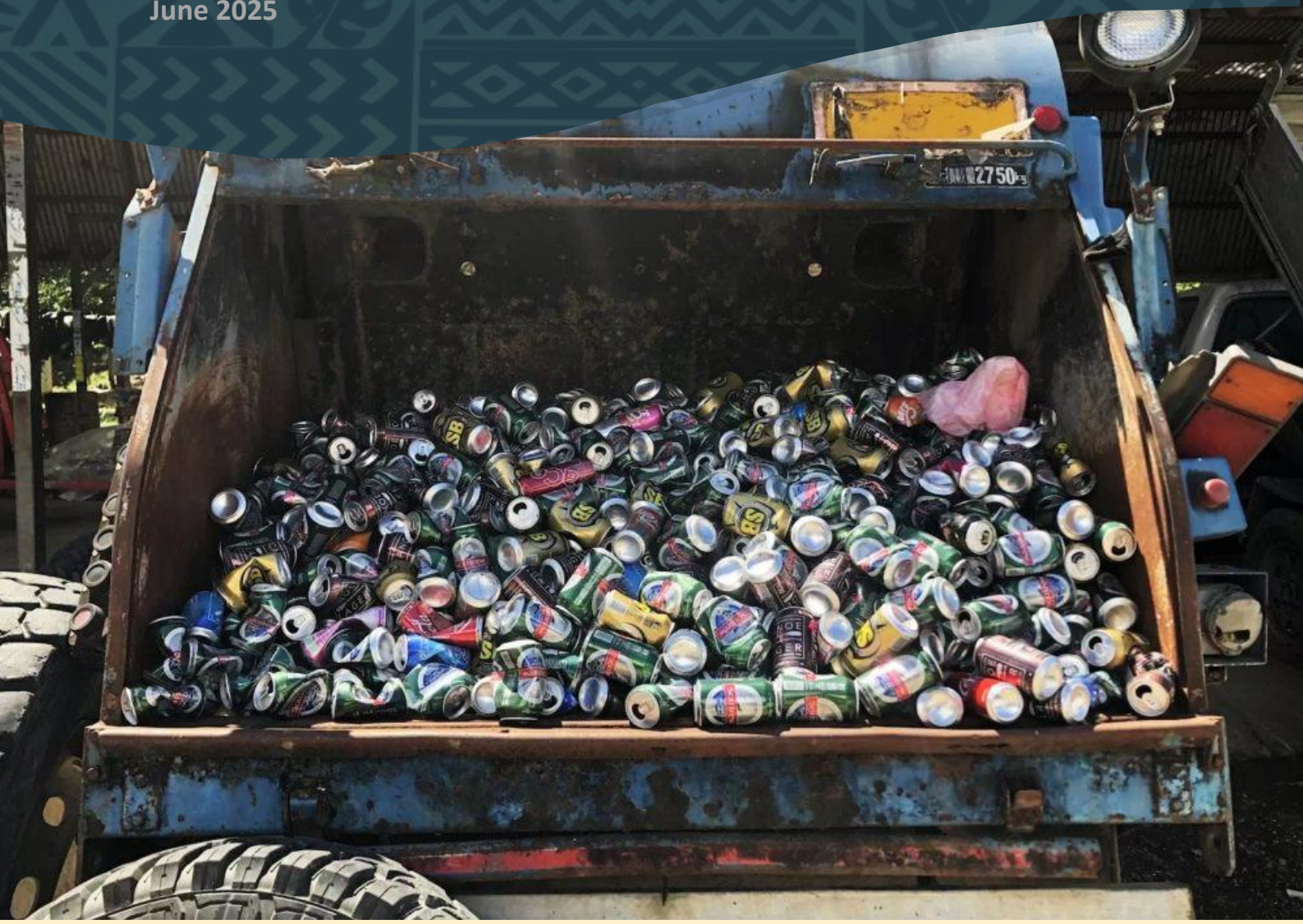
This initiative is supported by **PacWastePlus**-a 85-month project funded by the European Union (**EU**) and implemented by the Secretariat of the Pacific Regional Environment Programme (**SPREP**) **to sustainably and cost effectively improve regional management of waste and pollution.**

*This has been produced with assistance from the **European Union**. Its contents are the sole responsibility of **SPREP** and do not necessarily reflect the views of the European Union.*

Solomon Islands National Waste Audit Analysis Report

June 2025



This Waste data collation, analysis and reporting for the Solomon Islands National Waste Audit Analysis Report was guided by the overarching Regional Waste Data Collection, Monitoring, and Reporting (DCMR) Framework for the Pacific Island Countries and Territories (PICT).

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Our vision: A resilient Pacific environment sustaining our livelihoods and natural heritage in harmony with our cultures.

PacWaste Plus Programme

The Pacific – European Union (EU) Waste Management Programme, PacWaste Plus, is a 72-month programme funded by the EU and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) to improve regional management of waste and pollution sustainably and cost-effectively.

About PacWaste Plus

The impact of waste and pollution is taking its toll on the health of communities, degrading natural ecosystems, threatening food security, impeding resilience to climate change, and adversely impacting social and economic development of countries in the region.

The PacWaste Plus programme is generating improved economic, social, health, and environmental benefits by enhancing existing activities and building capacity and sustainability into waste management practices for all participating countries.

Countries participating in the PacWaste Plus programme are: *Cook Islands, Democratic Republic of Timor-Leste, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu*.

Key Objectives

Outcomes & Key Result Areas

The overall objective of PacWastePlus is "*to generate improved economic, social, health and environmental benefits arising from stronger regional economic integration and the sustainable management of natural resources and the environment*".

The specific objective is "*to ensure the safe and sustainable management of waste with due regard for the conservation of biodiversity, health and wellbeing of Pacific Island communities and climate change mitigation and adaptation requirements*".

Key Result Areas

- **Improved** data collection, information sharing, and education awareness
- **Policy & Regulation** - Policies and regulatory frameworks developed and implemented.
- **Best Practices** - Enhanced private sector engagement and infrastructure development implemented
- **Human Capacity** - Enhanced human capacity

Learn more about the PacWaste Plus programme by visiting

EUROPEAN UNION

SPREP
Secretariat of the Pacific Regional Environment Programme

PacWastePlus
PACIFIC WASTE MANAGEMENT

www.pacwasteplus.org

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Map of Solomon Islands

Source: www.worldatlas.com

Glossary

Acronym	Definition
C&D	Construction and Demolition (Waste)
C&I	Commercial and Industrial (Waste)
Cefas	Centre for Environment Fisheries & Aquaculture Science
DCMR	Data Strategy & Collection, Monitoring, and Reporting (Framework)
KPI	Key Performance Indicator
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MEA	Multilateral Environmental Agreement
MSW	Municipal Solid Waste (i.e. waste originating from the general public that is typically managed by local government entities, excludes commercial / business waste)
NGO	Non-Governmental Organisation
PICT	Pacific Island Countries & Territories
SPREP	Secretariat of The Pacific Regional Environment Programme

Terminology	Definition
Capacity	The total maximum waste storage and processing that can take place at a facility (as capped by license conditions).
Capture rate	The proportion of total waste generated that is successfully captured and disposed or recovered in an environmentally responsible manner (e.g. by a formal collection service or self-hauled to a licensed facility)
Coverage	The proportion of total households that have access to a regular waste collection service.
Modern	A 'modern' facility employs 'sound waste management practices' (as defined by the UNEP) and results in minimal adverse impacts on the environment. A 'modern' facility must be licensed, staffed, have access to equipment and machinery such as a bulldozer, employ a leachate management system and implement a daily cover routine at a landfill, and must not be exceeding their maximum storage capacity.
Per capita	Units measured on a per person basis (i.e. to allow for extrapolation over a national population)
Recovery	Any activity that diverts waste material from landfill, including processing of dry recyclables (such as paper, cardboard, metal and plastics such as PET and HDPE), organics recovery, and energy recovery.
Unregulated	Typically unlicensed waste facilities which do not follow international frameworks, rules, and guidelines to protect the health of the environment and community.
Waste facility	'Waste facilities' involved in the handling, disposal, or recovery of waste streams above a minimum processing threshold determined on country basis (i.e. tonnes of waste received per year). Can include landfills or dumpsites (that primarily rely on burying waste in a controlled manner), recycling facilities for dry recyclables, organics recovery facilities, and waste-to-energy facilities. Incinerators are not included in this analysis.

Executive Summary

Waste data collation, analysis and reporting for the Solomon Islands National Waste Audit Analysis Report was guided by the overarching Regional Waste Data Collection, Monitoring, and Reporting (DCMR) Framework for the Pacific Island Countries and Territories (PICT). The implementation of the DCMR Framework ensures that waste data is collected, analysed, and reported consistently and reliably across the Pacific.

Table (a) Summary of Key Performance Indicators (KPIs) for the Solomon Islands

Core KPIs	Result	Supplementary KPIs	Result
1. Count / capacity of modern waste facilities	0 / N/A	1. Cost of disposal to landfill ($/tonne)	USD$3.14
2. Count / capacity of unregulated waste facilities	22/ Capacity unknown	2. Weight of waste disposed (tpa)	53,545
3. National recovery rate (%)	3.29	3. Weight of waste recovered (tpa)	No data
4. Per capita waste generation rate (kg/capita/year)	98.15	4. Volume and type of stockpiled hazardous waste (m^3)	Asbestos: 0 E-Waste: 0 Healthcare and Pharmaceutical: 0 Used Oil : 50 Used tyres: 0 Obslete Chemicals:0
5. Municipal Solid Waste (MSW) composition (%)	See Figure (a)	5. Marine plastic pollution potential (tpa)	1450.4
6. Household waste capture rate (%)	49%	6. Awareness and support of waste management services (%)	23%
7. Household collection service coverage (%)	44%	7. Proportion of strategic waste management initiatives implemented (%)	87%
8. Fulfillment of MEA reporting requirements (%)	17%	8. Commercial waste capture rate (%)	90%
		9. Commercial collection service coverage (%)	90
		10. Total weight of disaster waste disposed (tpa)	0

Note: 'No data' indicates that the audit did not capture the parameters/measurements necessary to calculate the KPI.

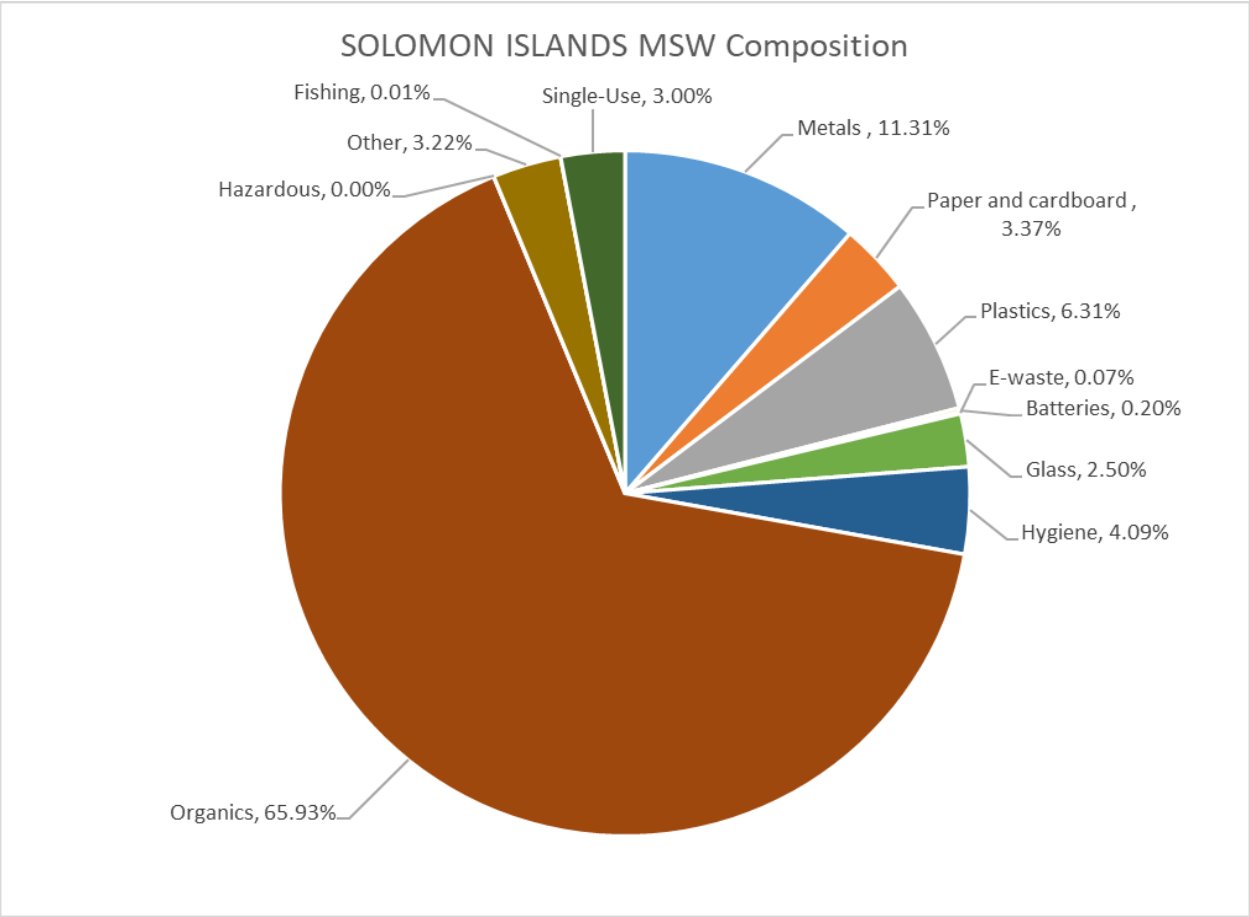


Figure (a) Solomon Islan ds Municipal Solid Waste (MSW) Composition (% by weight)

1 Introduction

1.1 Background

The Solomon Islands is one of fifteen Pacific Island Nations which took part in the PacWastePlus Programme implemented through SPREP and funded by the European Union Delegation of the Pacific. The PacWaste Plus Programme aims to improve waste management activities across the islands and strengthen the capacity of Governments, industries, and communities to manage waste to protect human health and the environment.

Solomon Islands' waste management practices primarily rely on burying, burning, and dumping. Landfilling is practiced to some extent in Guadlcanal, especially near the capital city of Honiara. There is limited access to proper waste collection and disposal infrastructure and facilities, leading to environmental degradation and health hazards.

Waste recovery in the Solomon Islands is undertaken by small-scale private recycling operations primarily located around Honiara, which export recycled materials to internationally. Profits generated from recycling in the country are largely dependent on international shipping rates and commodity prices. The current focus of recycling is on the collection and compaction of aluminum cans due to their high commodity value. Some businesses purchase directly from residents or waste pickers at disposal sites.

At the time of the audit, a small-scale Container Deposit Scheme (CDS) was operating in Honiara, with certain businesses offering refunds on glass bottles for reuse. Recent contributions under the PacWaste Plus Programme and industry bodies, such as the Solomon Islands Recyclers and Waste Management Association, have contributed to the growth of the country's recycling sector, showcasing the potential for further development in sustainable waste management practices in Solomon Islands.

Investment in infrastructure, implementation of data-guided decision making, and increased general waste management education will improve the current situation.

1.2 Purpose and Aim

The purpose of this audit analysis and report is to establish a baseline position for the Solomon Islands waste data and waste management systems.

The aim of this report is to:

- Validate pre-existing national waste audit data; and
- Collect additional data to inform data gaps from the Cook Islands 2023 National Waste Analysis Report; and
- Build national waste insights based on new key performance indicators (KPIs) to understand waste management trends.

The results of this report, and the other fourteen SPREP country audit analysis reports, will be collated together to inform a broader Pacific Regional Data and Audit Analysis Report.

1.3 Scope

The scope of this report is limited to the following waste data collected in the Solomon Islands:

- **Waste audit report 2019**: The audit was undertaken by Asia Pacific Waste Consultants (APWC) between November and December 2018 and provided an evaluation of household and business waste in Solomon Islands. Audit data and information was obtained via interviews and waste collections from 218 households and 46 businesses, followed by sorting and weighing.
- **Waste audit report 2022**: The audit was undertaken by the Solomon Islands Ministry of Climate Environment, Climate Change and Disaster Management (MECDM) between October and November 2021 and provided an assessment of the state of Solomon Island's landfills including landfill audits and stockpile assessments.
- **2023 Solomon Islands National Analysis Report**

- **2025 Additional Waste Data Collection and Waste Facility Register**

These national reports examine the MSW, commercial and industrial (C&I), and landfill waste streams. Landfills may receive a broad array of waste types including construction and demolition (C&D) waste, hazardous waste and disaster waste, in addition to MSW and C&I waste. As such, landfill waste is considered a separate waste stream.

The potential for marine plastic pollution is considered for macroscopic plastic waste (i.e. plastics that can be identified through compositional audits) originating from household sources. Accurate data on the amount and management of macroscopic plastic waste in the region is limited.

1.4 Country Overview

The Solomon Islands are in the Melanesia region of the Pacific Ocean and are composed of six major islands (Choiseul, Isabel, Malaita, Makira, New Georgia and Guadalcanal) and over 900 smaller islands (a map is provided on page 4). It covers a total land area of approximately 28,896 square kilometres.

The Solomon Islands has a population of over 720,000 people, of which 26% of people live in urban areas while 74% of people live in rural areas. Urban populations are largely concentrated in the capital cities of Honiara and Auki (located in Malaita Province). The population has a current growth rate of approximately 2.6% per year.

There are various stakeholders responsible for the management of waste in the Solomon Islands, including:

- National Government: Responsible for national legislation, strategies, and policy frameworks for waste, primarily under the jurisdiction of the MECDM and the Ministry of Health and Medical Services (MHMS).
- Provincial Government: Establish the local regulatory framework for waste management and management of waste disposal facilities.
- Municipal Governments: Responsible for providing household waste collection and management of landfill sites. There are only two town councils in the Solomon Islands; Honiara City Council (HCC) and Gizo Town Council.

Some specific waste streams, such as wastewater treatment solids, fall within the jurisdiction of the relevant government agency or government-owned enterprise. Collaboration between stakeholders, capacity building within lead agencies, and proactive adherence to legislated responsibilities, are all required to address waste and pollution in the Solomon Islands.

2 Methodology

Waste data collation, analysis and reporting were guided by the overarching Regional Waste Data Collection, Monitoring, and Reporting (DCMR) Framework for the Pacific Island Countries and Territories (PICT). The implementation of the DCMR Framework ensures that waste data is collected, analysed, and reported consistently and reliably across the Pacific.

2.1 Data Sources

Data collated and examined in this audit analysis report was sourced from the data sources listed in **Table 1.**

Data Source	Year	Location/s	Sample Size/s	Method for Data Collection	Reported Data
Solomon Islands Waste Audit[1]	2019	Guadalcanal, Honiara, Rural Auki	216	Household audit	Per capita generation, waste composition, total household waste generated
SPREP DCMR Project (new household survey conducted)	2025	Malaita, Western Province, Guadalcanal, Isabel, Choiseul, Rennell & Bellona, Temotu, Central Province, Makira & Ulawa, Honiara	142	Household survey	Waste collection coverage, Awareness of waste services
SPREP DCMR Project (commercial survey conducted)	2025	Malaita, Western Province, Guadalcanal, Honiara	48	Commercial survey	Waste collection coverage
Solomon Islands Waste Audit[2]	2023			Landfill audit	Waste disposed, waste composition, stockpiles
Solomon Islands Waste Audit	2023			Household survey	Awareness of waste services, Willingness to pay

[1] Audit conducted by APWC through the Commonwealth Litter Program (CLiP) of Cefas

Table 1 Data sources examined and available data

2.2 Data Analysis

Each country's audit reports, audit data, and other data sources were inspected for relevant information which was subsequently collated into country-specific databases. These databases were then used to calculate the DCMR Framework KPIs. KPI reporting followed the calculation methodologies as detailed in the DCMR Framework.

The main assumptions made during the analysis are discussed below.

Where it was necessary to modify calculation methodologies or assumptions (e.g. in cases of missing data or when certain parameters had to be calculated using assumptions derived from external data sources like census data), details of the changes are provided under their corresponding KPI in **Section 3.2.**

2.2.1 Main Assumptions

The main assumption is that the previously collected data is representative of the goals of the current project. Previous audit was conducted on a large and geographically dispersed sample of households and businesses, but the method of sampling was cross-sectional, i.e., multiple samples were collected at one point in time. Therefore, for these results to be representative, we need to make two key assumptions:

1. Seasonal variation in waste generation and composition is non-existent or low,
2. Large time-frame variation (several years) in waste generation and composition is non-existent or low.

While there are solid grounds for these assumptions, there are no empirical records to support them.

Specific assumptions for each KPI calculations are also discussed in Section 3.2 KPI Reporting Results. For calculation of national averages involving different geographical locations, weighting is done to ensure a more representative value at the national level. This applies to both household/commercial audits and community surveys.

2.2.2 Main Challenges

The collection and analysis of data to measure the KPIs can be quite challenging in the Pacific Region due to the following:

1. Oftentimes, facilities do not carry licenses and as such, capacity to accept waste is not always known. In most cases, operation exceeds capacity due to lack of foresight on the remaining capacity. In addition, planning for new waste facilities can be daunting due to limited options to locate a site. The reasons could be land tenure, site suitability especially for atoll islands, and community approval for potential sites within human settlements.
2. Most of the waste facilities did not undergo Environmental Impact Assessment and as such are operating without necessary environmental controls. This could have been addressed in the licensing process but is not happening due to limited options available to site the facilities.
3. Data collection relies on guess estimates due to lack of proper recording system of waste material flow and receipt of these materials in the facilities. The measurement of capture rate could be very challenging with the lack of data on wastes received in the facilities.
4. It is hard to determine recovery of materials to calculate national recovery rate since most of the materials remain stockpiled and not processed or exported and as such cannot be considered a return to economy. In the case of green waste diversion, Tuvalu has a good system of recovery and processing of these materials producing compost or mulch.
5. Request for information from the countries is very challenging given the very limited time to deliver this project. Based on Consultants' experience working in the Pacific, requested data may be likely provided within four months at a minimum.
6. Most disposal sites are unregulated and are operating sub-standardly and cost may not reflect what should have been spent. Also, most disposal sites operate on a fixed budget and do not consider changing disposal pattern and as such performance improvement cannot be monitored through disposal costs.

7. There is difficulty in locating stockpiles since some of these are stored in backyards with no proper storage facility. Most of the stockpiles are unreported.
8. There seems to be ambiguity in measuring success of initiatives since there is no established M & E framework in national implementation of projects unless the project is regional in scope with donor funding
9. The disposal sites are not recording incoming disaster waste since these are emergency actions which are not closely monitored. There may have been disaster wastes dumped anywhere close to the affected areas and remain there for a long time. Demolition may take years.
10. While the introduction of Kobo Toolbox may be helpful in recording data on the spot, there is some degree of reluctance on its use with more preference still given to the paper record. An intensive training on its use as part of a separate data recording training would promote its wider use.

2.3 Key Performance Indicators

The DCMR Framework introduces a series of KPIs (see **Table 2**). The KPIs were developed to guide data analysis to improve the efficiency of data collection activities by building on pre-existing data collection practices across the region.

Each of the KPIs were designed to be reported using corresponding data collection methodologies, these are:

- a waste facility register;
- household waste audits and community surveys;
- business waste audits and surveys;
- a policy survey; and,
- landfill and stockpile audits.

Table 2 Key Performance Indicators (KPIs) from the DCMR Framework

Core KPIs	Supplementary KPIs
1. Count / capacity of modern waste facilities	1. Cost of disposal to landfill
2. Count / capacity of unregulated waste facilities	2. Weight of waste disposed
3. National recovery rate	3. Weight of waste recovered
4. Per capita waste generation rate	4. Volume and type of stockpiled hazardous waste
5. Municipal Solid Waste (MSW) composition	5. Marine plastic pollution potential
6. Household waste capture rate	6. Awareness and support of waste management services
7. Household collection service coverage	7. Proportion of strategic waste management initiatives implemented
8. Fulfillment of Multilateral Environmental Agreement (MEA) reporting requirements	8. Commercial waste capture rate
	9. Commercial collection service coverage
	10. Total weight of disaster waste disposed

3 Audit Analysis Results

3.1 Summary of Data Availability

The waste audits provided varying levels of data and information to calculate performance via the indicators introduced in the DCMR Framework. The extent to which there was adequate data and information to calculate the KPIs is represented below in **Table 4.**

Table 4 Summary of data availability for reporting against DCMR Framework

Core KPIs		Supplementary KPIs	
1. Count / capacity of modern waste facilities		1. Cost of disposal to landfill	
2. Count / capacity of unregulated waste facilities		2. Weight of waste disposed	
3. National recovery rate		3. Weight of waste recovered	
4. Per capita waste generation rate		4. Volume and type of stockpiled hazardous waste	
5. Municipal Solid Waste (MSW) composition		5. Marine plastic pollution potential	
6. Household waste capture rate		6. Awareness and support of waste management services	
7. Household collection service coverage		7. Proportion of strategic waste management initiatives implemented	
8. Fulfillment of MEA reporting requirements		8. Commercial waste capture rate	
		9. Commercial collection service coverage	
		10. Total weight of disaster waste disposed	

Legend

Calculated with additional Data	Calculated in the previous Report	No data

Note: 'No data' indicates the audit did not capture the parameters/measurements necessary to calculate the KPI.

3.2 KPI Reporting Results

The following sections present the results of the collated and analysed waste audit data for each of the eight core and ten supplementary KPIs introduced in the DCMR Framework. The results of the analysis will serve as a baseline position for the Solomon Islands to compare future data to, and to guide subsequent waste management or waste data-related activities.

Core KPI 1: Count / capacity of modern waste facilities

Result	**Count of modern waste facilities: 0** It has been confirmed that there are no waste facilities in Solomon Islands which can be considered a modern facility with environmental controls in place. **Capacity of modern waste facilities (tonnes per annum): N/A**
Assumptions	None
Data gaps	None
Key considerations	• There are no landfills or dumpsites in the Solomon Islands which are up to 'modern' standards and need to be rehabilitated to improve environmental controls such as leachate management, daily cover, ventilation pipes, security, etc. which exposes these sites to environmental and health risks. • Ranadi Landfill is operating beyond its lifespan. It is very critical to explore options to identify other suitable sites to sustain the current level of waste service provision • The number, location, name and operations of all landfills and dumpsites should be collated for future reporting purposes. • It is also important to monitor operations of other facilities to ensure that the operations are not contributing to environmental degradation.

Core KPI 2: Count / capacity of unregulated waste facilities

Result	**Count of unregulated waste facilities**: **22** • The 'unregulated' dumpsites included: – Ranadi Landfill (Honiara/Guadalcanal) – Gizo, Noro and Munda disposal sites (Western Province) – Malou, Auki disposal site (Malaita) – Tulagi disposal site (Central) – Buala disposal site (Isabel) – Kirakira disposal site (Makira-Urawa) – Tara disposal site (Choiseul) – Lata disposal site (Temotu) • In total, there were 9 disposal sites, 5 recycling facilities (mostly scrap metal), 6 incineration facilities and 2 waste storage facilities. • Some provincial governments hire equipment (e.g. bulldozers or excavators) to move or compact waste as the need arises. Others rely on waste burning to control onsite volumes of waste. • Minimal or no active leachate management at provincial dumpsites. • Most of these facilities lack security (fencing or locking gates) or dedicated staff. Due to the 'unregulated' nature of disposal, gate fees are rarely charged to residents. **Capacity of unregulated waste facilities (tonnes per annum): Limited Data** • The other facilities (recycling, incineration and storage) have provided processing capacities. However, the combined capacities of these facilities is not significant enough to reflect the overall ability to capture waste in the country since most of the waste is brought to the disposal sites with no record of capacity to handle these wastes. • Of the 9 landfills, one (1) is over capacity, while 8 still have some remaining years between 2 – 10 years.
Assumptions	None
Data gaps	• No estimates or parameters were used to calculate the maximum annual processing capacity (tpa) of any of the Solomon Islands' disposal sites. • There were a few facilities which provided estimated capacities, but these are mostly the recycling facilities and cannot be representative of capacity at the national level.
Key considerations	• All Solomon Island waste facilities (disposal sites, recycling centres, storage facilities and incinerators are 'unregulated'. • There is minimal active leachate or litter management at provincial dumpsites. This means that both the environment and community are at risk of hazards due to contamination and material flow. • No daily cover usage at the sites means that these sites are very susceptible to material flow during climate-related weather events such as cyclones. • The identified unregulated facilities present investment opportunities to upgrade existing sites and facilities to align with best practice. Reducing the number of unregulated facilities will lead to better outcomes for the local environment and community health.

Core KPI 3: National recovery rate

Results	**National recovery rate (%): 3.29** • Audit findings show 4 recycling companies were operating in the country at small scale. – Private recycling operations operate at a small scale in the vicinity of Honiara. – Reliant on access to international shipping routes to export recycled material to foreign markets. – Focused on the collection and compaction of aluminium cans. • A small-scale CDS was operating in Honiara, run by businesses offering refunds for glass bottle reuse. • ULABSs recycling is also undertaken in a wider scale now.
Assumptions	• Quantity of recovered materials was based on shipped materials • Personal communication with recyclers reveals that 24 containers of metals are shipped annually by two firms with a capacity of 20 tonnes per container – estimated at 480 tpa • 16 containers of ULABs are shipped annually by the four recyclers (once every 3 months for each recycler) - estimated at 320 tpa • 8 containers of Al cans are shipped monthly with a capacity of 10 tonnes per container – estimated at 960 tpa
Data gaps	• No information on the total mass of material diverted from landfill (tpa) via recovery systems or facilities. • No dedicated recovery facilities are mentioned in audit reports. • No facility registers were returned
Key considerations	• A national recovery rate is not able to be calculated as no weights of waste diverted from landfill nor recovery facility data were recorded during the audits. • The lack of recovery facilities in the Solomon Islands highlights a need for formal recovery infrastructure and strategy in the Solomon Islands, as all current recovery operations are private. • Changes to the structure and prevalence of recycling operations are also expected to have changed since the 2018 audit. Recent contributions under the PacWaste Plus programme and industry bodies such as the Solomon Islands Recyclers and Waste Management Association will have contributed to growing the local recycling sector. • Poor market conditions for some consolidated recycled materials (such as PET bottles) are a barrier to expanding current recycling operations. Further investigation of barriers to recovery would be beneficial.

Core KPI 4: Per capita waste generation rate

Results	**Per capita waste generation rate (kg/capita/year): 98.15** – kg/capita/day: 0.269 – kg/household/day: 1.52
Assumptions	• Household waste audit data was converted from a per household basis to a per capita basis. The weighted average is calculated based on geographic position (i.e., rural, semi-urban or urban), and extrapolated using census data of the population to get the national average. • Where provinces had no data (i.e. Choiseul, Temotu, Western Central Rennel-Bellona, Isabel, Makira-Ulawa), an assumed average waste generation rate was used based on data from household audits from either Honiara (urban), Guadalcanal and Western Province (periurban), or Malaita and Guadalcanal (rural) provinces. • Population statistics used to calculate per capita information were sourced from 2019 census results.
Data gaps	• Households were not examined in the provinces of Choiseul, Isabel, Rennel-Bellona, and Temotu.
Key considerations	• Future per capita waste generation rates will provide insight into waste management trends and changes for the Solomon Islands, and allow for comparison within the Solomon Islands and across the region.

Core KPI 5: Municipal Solid Waste (MSW) composition

Results	Organics is the most prevalent waste category for household waste in Solomon Islands. This is followed by metals, plastics, hygiene, and paper and cardboard, detailed below: • Organics: 65.93% • Metals: 11.31% • Plastics: 6.31% • Hygiene: 4.09% • Paper and cardboard: 3.37%

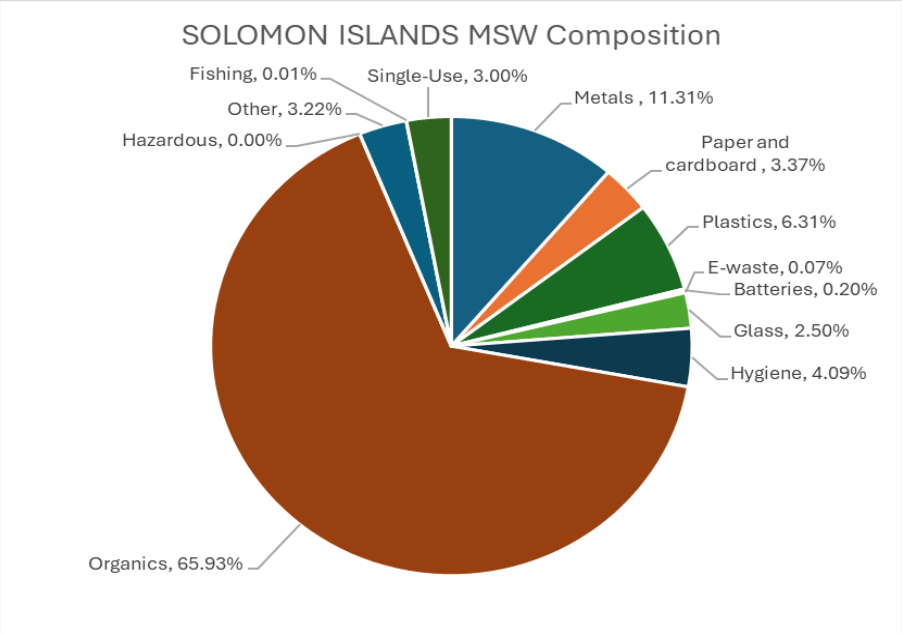
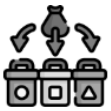


Figure 1 Solomon Islands Municipal Solid Waste (MSW) composition (% by weight)

Assumptions	None
Data gaps	• Categories reported in the audit are based on the 2018 waste audit, which predates the PRIF waste audit guidelines. These categories were converted to the PRIF audit guideline categories to report to this performance indicator.
Key considerations	• Subsistence to locally grown or produced food items contributed to the prevalence of organics in the household waste stream. Organics recovery systems, such as a local or national composting service could help support local farmers and reduce the amount of organic waste destined for landfill. • Organics recovery systems, such as a local or national composting service could help support local farmers and reduce the amount of organic waste destined for landfill. • Periodic updating of waste composition is valuable to determine changing consumption and disposal patterns as well as impacts of the pandemic and climate change or weather events which may have changed the proportions of waste types sourced from households. • Household waste compositions provide an insight into the types of waste contained inside the MSW stream. Knowledge of the waste types and proportion of these wastes present within the household waste stream allows for targeted decision making and prioritisation of problem waste types.



Core KPI 6: Household waste capture rate

Results	**Household waste capture rate (%): 48.71%** – Total weight of household waste generated = 44,786.8 tpa – Total weight of household waste captured responsibly = 21,815.6 tpa
Assumptions	• The survey and audits did not capture each household's disposal method or the weight of waste captured by management services, so census data was used and extrapolated across household audit results. $$Household\ waste\ capture\ rate\ (\%) = \frac{weight\ of\ managed\ waste\ (tpa)}{total\ household\ waste\ generated\ (tpa)}$$ Total weight of managed waste is calculated as the product of: $$weight\ of\ managed\ waste\ (tpa) = \frac{household\ collection\ coverage\ (\%)}{total\ household\ waste\ generated\ (tpa)}$$ Collection service coverage (%) is the product of: $$household\ collection\ coverage\ (\%) = \frac{number\ of\ households\ with\ some\ form\ of\ collection\ service}{total\ number\ of\ households}$$ Total household waste generated is the summation of waste generation tonnages for all sampling locations. Waste generation rates for individual sampling locations are calculated by: $$total\ household\ waste\ generated\ (tpa) = average\ waste\ generation\ rate\ of\ location\left(\frac{\frac{kg}{capita}}{year}\right) \times location\ population$$
Data gaps	• No information on the weight of waste captured by waste management services or received in the facilities • Data was not captured for all provinces.
Key considerations	• Less than half of the waste generated in the Solomon Islands is captured by formal collection services, either officially collected or dropped off at dumpsites personally. • The remaining proportion of waste generated which is not captured via waste management services is at risk of being burned, littered, buried, or dumped, and uncaptured waste poses a risk to both environmental and community health.

Core KPI 7: Household collection service coverage

Results	**Household collection service coverage (%): 44.49%** • Less than half of the households in Solomon Islands have access to a waste collection service. This means that the remaining population may likely resort to dumping, burning, or burying waste as their primary form of disposal. • A new household survey was conducted with a total of 142 households to update the 2018 audit. The surveyed households represent the 'urban' (Honiara) and 'rural' (Malaita, Western, Guadalacanal, Isabel, Choiseul, Rennell & Bellona, Temotu, Central, and Makira & Ulawa) populations. The survey found the following households had access to a general waste collection service: – **Urban:** – Honiara (19 surveyed): 63% – **Rural:** – Malaita Province (32 surveyed): 41% – Western Province (20 surveyed): 65% – Guadalcanal Province (34 surveyed): 35% – Isabel Province (23 surveyed): 65% – Choiseul Province (3 surveyed): 33% – Rennell & Bellona Province (3 surveyed): 67% – Temotu Province (4 surveyed): 75% – Central Province (3 surveyed): 33% • Makira & Ulawa Province (1 surveyed): 100%
Assumptions	• Calculated based on information from 2019 census data: – Number of households • Peri-urban areas were assigned a representative 'rural' coverage rate and extrapolated across their corresponding populations.
Data gaps	• Lack of peri-urban samples. • Limited sample number rural areas
Key considerations	• Less than a quarter of the population of the Solomon Islands have access to some reliable form of waste collection service. • Collections in Honiara are unreliable and do not cover the entire city. However, there has been a significant change in disposal behaviour (i.e. less burning of waste) in Honiara compared to localities having no system in place. • Survey results revealed that 'rural' residents were willing to pay more for waste collection services than 'urban' communities.

Core KPI 8: Fulfillment of Multilateral Environmental Agreement (MEA) reporting requirements

Results	**Fulfillment of MEA reporting requirements (%): 16.67%** **Convention** / **Status** / **Reporting requirements** / **Reports delivered** **Basel Convention** / Ratification / Annual reports (1) / 0 **Stockholm Convention** / Accession / 5 reporting cycles (5) / 1
Assumptions	• Only MEA's with mandatory reporting requirements were included in the calculation of this KPI. • For conventions like the Waigani Convention, strict reporting requirements are not enforced and so are not included in the calculation.
Data gaps	None
Key considerations	• The Solomon Islands are behind on national reports for the Stockholm Conventions. • Investigation into additional resources or capacity could be developed to improve PNG's fulfilment of MEA obligations. • The Solomon Islands ratified the Basel Convention in 2022.

Supplementary KPI 1: Cost of disposal to landfill

Results	**Cost of disposal to landfill ($/tonne): 3.14**
Assumptions	The disposal rate determined in the 2022 Ranadi landfill audit of 104.6 tonnes per day and the reported 2022 expenditure of 1M SBD (data received) was used to calculate this KPI.
Data gaps	The only available data which can be used is that of the Ranadi Landfill based on the 2022 landfill audit done through PWP and the data provided by HCC. The rest of the disposal sites have not provided their annual operating costs.
Key considerations	Completion of the waste facility register suggested by the DCMR Framework will provide sufficient data to accurately calculate this indicator to work as a benchmark for comparing disposal costs against previous periods, other countries, and the region.

Supplementary KPI 2: Total weight of waste disposed

Results	**Total weight of waste disposed (tonnes per annum): 53,545**
Assumptions	None
Data gaps	• Limited information to calculate the annual quantity of waste disposed (tpa). – The total amount of provincial dumpsites and their associated tonnages were not identified in the report aside from the six 'unregulated' facilities identified in the audits.
Key considerations	• The audit captured disposal estimates in some of Solomon Island's most most densely populated provinces. However, the current weight of waste disposed may not be representative of all waste sent to landfill in the Solomon Islands, due to data gaps for the unaudited provinces. • The total amount of waste is expected to show an increase once data is collected from other sites in the future using the waste facility register suggested in the DCMR Framework.

Supplementary KPI 3: Total weight of waste recovered

Results	**Total weight of waste recovered (tonnes per annum): 1,760**
Assumptions	• This is an estimate of the quantity of materials shipped based on interviews with the 4 recyclers. - 24 containers of metals and 16 containers of ULABs are shipped annually with a capacity of 20 tonnes per container – estimated at 480 tpa of metals and 320 tpa of ULABs - 8 containers of Al cans are shipped monthly with a capacity of 10 tonnes per container – estimated at 960 tpa
Data gaps	• No information was available on the recorded weights of any waste recovered in the Solomon Islands.
Key considerations	• Calculation of this KPI requires the completion of the waste facility register with the inclusion of data for any recovery facilities operating in the Solomon Islands. This will indicate the effectiveness of a country's waste management systems, recovery systems & infrastructure, and a comparative data point for other countries and time periods.

Supplementary KPI 4: Volume and type of stockpiled hazardous waste

Results	**Volume and type of stockpiled hazardous wastes (m^3):** – Asbestos: No data – E-waste: Insufficient data – Healthcare and pharmaceutical waste: No data – Used oil: 50 m^3 – Used tyres: No data – Obsolete chemicals: No data • Audits of stockpiles in the following five locations were conducted from November to December 2021: 1. Design and Technology Centre, Honiara 2. Gold Ridge Mining Company, Guadalcanal 3. Solomon Power Company, Honiara 4. National Fisheries Development, Noro, Western Province 5. Gizo Recycling Centre, Gizo, Western Province • An estimate of stockpiled used oil was presented in a feasibility study conducted to prepare for a Used Oil Management Plan for Solomon Islands through the SWAP Project.
Assumptions	None
Data gaps	• Additional stockpiles are assumed to exist. • No information on asbestos, healthcare and pharmaceutical waste, used tyres, and obsolete chemical waste was reported in the audit report. • Audits conducted in 2021 lacked some consistency between sites.
Key considerations	• The volume of other hazardous waste stockpiles in Solomon Islands remain unknown which makes it difficult to assess the potential risk posed to the community and environment. • Informal stockpiling is commonly practiced, particularly for end-of-life vehicles, in the vicinity of Honiara and provincial town centres. • Landfill audits, stockpile assessments, and the completion of the waste facility register proposed by the DCMR Framework will provide the information required to calculate this performance indicator.

Supplementary KPI 5: Marine plastic pollution potential

Results	**Marine plastic pollution potential (tonnes per annum): 1,450.4**
Assumptions	• Assumes a national weight of mismanaged waste, based on household audit samples. – This calculation uses the total weight of waste generated, subtracted by the weight of waste captured by collection services. The difference is the estimate for mismanaged waste used in this calculation. – Mismanaged waste is defined as all waste which is not captured in collection services, and ends up buried/burned/littered etc. • Uses a proportion of plastics captured in MSW composition.
Data gaps	• Requires a more reliable metric for mismanaged waste.
Key considerations	• Waste plastics which are not managed in an environmentally sound manner are assumed to pose a significant risk of polluting oceans and estuarine waterways.

Supplementary KPI 6: Awareness of waste management services

Results	**Awareness of waste services (%): 22.54**
Assumptions	The survey question assessed the collection service as a whole and was not directed to all possible waste services. Therefore, a value of 1 was assigned as number of available services in the formula to calculate awareness.
Data gaps	None
Key considerations	• Only a small proportion of the population is aware of the waste services provided. • Monitoring the community's awareness provides an indication of the success of education initiatives and the effective use of existing waste management

Supplementary KPI 7: Proportion of strategic waste management initiatives implemented

Results	**Proportion of waste management initiatives implemented (%): 87.1%** – Number of initiatives successfully implemented = 27 out of 31 – Number of pipeline/planned initiatives yet to be implemented = 4 – The following list details implemented initiatives based on the major focused areas in the National Waste Management and Pollution Control Strategy 2017 to 2026: – Robust policy and legislative framework initiatives – Adoption of Environment Bill in 2023 – Plastic Ban Regulations – SWM Plan drafted for Tulagi (Central Province), Auki (Malaita Province), Honiara City Council – Prosecution of the first case of plastic ban in Honiara – Regulation, enforcement & monitoring of prescribed premises under the Environment Act 1998 & Regulation 2008 – Solid Waste Management Roadmap for Honiara and urban areas – Integrated approach to waste management and pollution control initiatives – Development of a landfill operation manual – Construction of a Organic Processing Facility in Gizo – Establishment of Recycling Collection & Storage Facility in Gizo – Installation of recycling cages in 5 schools – Training and research initiatives – Trainings on solid waste, marine litter, hazardous waste, asbestos, healthcare waste,etc in collaboration with regional projects and national stakeholders & partners – Air Pollution monitoring – Data collection – Awareness, communication and education initiatives – Clean Up Campaigns – Awareness programs in schools, communities, stakeholders, media platforms, workshops/meetings, – Public-private partnership initiatives – Collaboration with other NGOs & provincial government & private sectors to organize and implement programs and initiatives – Establishment of SI Recycling Association – Infrastructure and cleaner technology initiatives – Construction of a Used Oil Management Storage Facility in Honiara – Waste to Energy initiative through Pyrolysis by Design Technology Centre, Biogas at Tetere Prison – Transboundary waste export from SI to Korea – Collaboration with SI Maritime Authority during the Solomon Trader Oil spill incident in Rennell-Bellona Province – Stakeholder engagement initiatives – Supporting community group initiatives & stakeholders through community grant support by the SI Government – Sustainable financing initiatives – Conceptualisation of the Product Stewardship Legislation and Regulations – Prepaid Bag Pilot Project – Plastic waste initiatives

	– Plastic Brick initiative by Resilience Innovative Girls Social Club in Honiara & Plastic tile initiative by plastic wise Gizo – Installation of water filter station in 5 schools – The following list details of the planned initiatives: – Development of National Plastic Strategy and Action Plan – Waste management database – Rehabilitation of Ranadi Landfill into a transfer station – National guidelines for disaster waste management
Assumptions	The initiatives were categorised based on the focused areas in the National Waste Management and Pollution Control Strategy 2017 to 2026
Data gaps	None
Key considerations	• The Solomon Islands have several policies, legislations, strategies, and multilateral agreements that address solid waste management and control of pollution. • The MECDM is responsible for national waste management coordination under the *Environment Act 1998*. EHOs from the Ministry of Health manage operations. Specific waste streams may fall under Government agencies or government-owned enterprises.

Supplementary KPI 8: Commercial waste capture rate

Results	**Commercial waste capture rate (%): 89.80** • Theoretically, this is measured as the fraction of the total waste captured through formal waste management services over the total waste generated by businesses.
Assumptions	The number of registered businesses was used to calculate a weighted average of daily generation per business from the audit and assumed that each country has 250 workdays a year.
Data gaps	• No estimate for the total amount of commercial waste successfully captured by management services was identified within the audit report. • Insufficient information available on the total amount of waste generated by businesses outside of samples from Honiara and Auki. • No information on waste generation rates of businesses outside of Honiara and Auki in the audit reports.
Key considerations	• Accurate calculation relies on an estimate of total numbers of businesses in the country categorised by business type, and an estimate of the commercial waste generation rates for each business type. • Completion of business surveys suggested in the DCMR Framework will provide an indication of how many businesses are using collection services, and other forms of waste management, and to what extent these businesses access the service.

Supplementary KPI 9: Commercial collection service coverage

Results	**Commercial collection service coverage (%): 89.58** • Waste collection for businesses is only available in Honiara, on a request-only basis. • Businesses are required to pay for collection services. • A commercial survey was done as part of this study to update the results.
Assumptions	None
Data gaps	• The audit reports did not quantify access to alternative collection services used by businesses (e.g. waste disposal points or self-haul). • The survey was only done in Honiara due to limited time.
Key considerations	• Accurate calculation relies on understanding the total number of businesses participating nationally, and specific collection service coverages for businesses. • Completion of business surveys suggested in the DCMR Framework, would provide an indication of how regular, accessible, and affordable collection services are for businesses.

Supplementary KPI 10: Weight of disaster waste disposed

Results	**Weight of disaster waste disposed (tpa): No data** • Measured as a sum of the recorded weight of disaster waste disposed to a landfill or received and stockpiled at the waste facility following a disaster event. • No disaster waste data was recorded during the examined audits.
Assumptions	• No disaster waste event occurred in the 12months, and no disaster waste recorded during the previous years.
Data gaps	• None
Key considerations	• Calculation of this performance indicator provides an estimate of the amount of disaster waste being effectively managed and the total amount of disaster waste generated in a year. • Calculating this KPI can be undertaken by regularly updating the waste facility register. Tracking the vehicle capacity and percentage fullness of the load of any 'disaster waste' carrying vehicles entering the facility will help reconcile waste amounts disposed of if these wastes are not managed separately.

4 Conclusion

From this exercise, the following findings and recommendations are drawn:

- Solomon Islands had the benefit of having two waste audits conducted within a span of five years from 2018 to 2023 through the Commonwealth Litter Programme (CLiP) by Cefas and through the PacWaste Plus Project. This provided the opportunity to gather as much data as possible.
- The improved waste management system in Solomon Islands should be sustained and further support is needed for areas with limited data availability. There is a strong need to encourage continuous recording system to be in place for most of the facilities in the countries.
- The online recording system can potentially contribute to the collection and storage of data. This can facilitate easy access to the data and reduces risk of data loss.
- 4While the previous 2023 analysis presented KPI calculations based on sufficient data in Solomon Islands, some of these KPIs were recalculated based on raw data from the waste auditors who did the actual audit. There were differences (some are slight) owing to the weighting approach done in the calculation of national averages. There were also KPIs with no data reported in the previous report which are able to be calculated from the raw data of the existing waste audit. The common methodology approach which was agreed prior to the recent audits should be strictly used to allow lateral comparison among the countries and enable more reliable regional data.

5 Appendix

5.1 Collection Methods

5.1.1 Core KPI Collection Methods

The KPIs are calculated from a range of data sources. They are listed in the below table with information about what KPIs they inform, how they work, and how often they need to be collated.

Collection Method	What the Collection Method Informs	About the Collection Method	Frequency of Reporting
Waste Facility Register	**KPI 1** Count and capacity of modern waste facilities **KPI 2** Count and capacity of unregulated waste facilities **KPI 3** National recovery rate **SKPI 1** Cost of disposal to landfill **SKPI 2** Weight of waste disposed **SKPI 3** Weight of waste recovered **SKPI 4** Volume and type of stockpiled hazardous waste **SKPI 10** Weight of disaster waste disposed.	The Waste Facility Register is a written survey that can be completed on Word, Excel, Kobo Toolbox, or something similar. It should be completed by or on behalf of waste facility operators.	Annual submission of monthly report (all KPIs and SKPIs). As and when disaster events occur (SKPI 10).
Household Community Survey	**KPI 4** Per capita waste generation rate **KPI 6** Household waste capture rate **KPI 7** Household collection coverage **SKPI 5** Marine plastic pollution potential **SKPI 6** Awareness and support of waste management services.	The Household Community Survey is a written survey that can be completed on Word, Excel, Kobo Toolbox, or something similar. It should be completed by or on behalf of households in Solomon Islands. Sample size: 142, locations: Malaita, Western Province, Guadalcanal, Isabel, Choiseul, Rennell & Bellona, Temotu, Central	Every five years.
Household Compositional Waste Audit	**KPI 4** Per capita waste generation rate **KPI 5** Municipal solid waste (MSW) composition **KPI 6** Household waste capture rate **SKPI 5** Marine plastic pollution potential.	The Household Compositional Waste Audit is a sort and weigh audit undertaken according to the Waste Audit Methodology: A Common Approach.[3] Sample size: 216, locations: Guadalcanal, Honiara, rural Auki.	Every five years.
Commercial Community Survey	**SKPI 6** Awareness and support of waste management services **SKPI 8** Commercial collection service coverage **SKPI 9** Commercial collection service coverage.	The Commercial Community Survey is a written survey that can be completed on Word, Excel, Kobo Toolbox, or something similar. It should be completed by or on behalf of households in Solomon Islands.	Every five years.

[3] https://www.sprep.org/sites/default/files/documents/publications/waste-audit-methodology-common-approach.pdf

Collection Method	What the Collection Method Informs	About the Collection Method	Frequency of Reporting
		Sample size: 48; locations: Malaita, Western Province, Guadalcanal, Honiara	
Commercial Compositional Audit	**KPI 4** Per capita waste generation rate **KPI 5** Municipal solid waste (MSW) composition **SKPI 5** Marine plastic pollution potential.	The Commercial Compositional Waste Audit is a sort and weigh audit undertaken according to the Waste Audit Methodology: A Common Approach. No commercial audit was done yet.	Every five years.
Landfill Activity Audit	Landfill Activity Audits can help to validate incomplete Waste Facility Register surveys.		Every five years if Waste Facility Register is incomplete.
Hazardous Stockpile Audit	Hazardous Stockpile Audits can help to validate Waste Facility Register surveys that have incomplete data on stockpiled hazardous waste. The audits are typically visual and estimate volumes of the following hazardous waste categories: • Asbestos • E-waste • Healthcare and pharmaceutical waste • Used oil • Used tyres • Obsolete chemicals.		Every five years if Waste Facility Register is incomplete.
Policy Survey	**KPI 8** Fulfilment of MEA reporting requirements **SKPI 7** Proportion of strategic waste management initiatives implemented.	The Policy Survey is a written survey that can be completed on Word, Excel, Kobo Toolbox, or something similar. It quantifies the number of planned national and regional strategic initiatives over time.	Biennial.
Disaster waste	**SKPI 10** Weight of disaster waste disposed	Data on waste generated from disaster events is captured via the Waste Facility Register.	Annual/after disaster events.
Census data	**KPI 4** Per capita waste generation rate **SKPI 5** Marine plastic pollution potential.	Population data to inform the per capita waste generation rate and marine plastic pollution potential.	N/A
Customs Import and Export Data	Can be used to inform KPIs on waste generation, recovery rate, and capture rates.		N/A
Commercial Data	Number of total businesses and type to allow data to be used for national extrapolation.		N/A

6 References

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