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Science

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WASTE CONSULTANTS

Solomon Islands – Waste management training report

Overview and outcomes of training developed and delivered 2018–2019

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Executive Summary

The Commonwealth Litter Programme (CLiP) is an initiative delivered by the Centre for Environment Fisheries and Aquaculture Science (Cefas) and funded by the United Kingdom's Department for Environment, Food and Rural Affairs (Defra). The initiative supports six developing countries across the Commonwealth in advancing national litter action plans focused on preventing litter entering the oceans.

In 2018, CLiP contracted Asia Pacific Waste Consultants (APWC) to study waste management practices in Solomon Islands and offer best-practice solutions and training to staff engaged in the design and delivery of waste services. A number of problem waste streams were identified during the waste audit process carried out in 2018. In response, APWC developed a programme to share knowledge and ideas relevant to the Pacific context. The objective of the programme was to build collaborative relationships by sharing solutions and lessons learned in the Australian context to help tackle marine litter and broader waste issues.

This report presents the training delivered in Solomon Islands over a four-month period from November 2018 to March 2019, including the concept note for the training to be held in March 2019.

In November 2018, extensive waste-audit and data-collection training was provided to staff from Honiara City Council and Auki Province. During that month, five staff from Solomon Islands were trained to undertake waste data collection and audits.

The staff trained during the November 2018 APWC visit co-designed the training delivered to participants from Malaita Province from 25 to 27 March 2019. This training was attended by between 30 to 55 participants each day and resulted in the development of a waste management action plan for Malaita Province. The training workshop also delivered one of the actions in the National Waste Management Plan for Solomon Islands and included demonstrations in the re-use of plastics to create useful products from two Plasticwise Gizo representatives. This demonstration was popular with the local women's group and the market committee. The Ministry of Environment will provide a follow-up workshop and ongoing support to track progress of the action plan.

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Acronyms

ACRONYMS	
ADB	Asia Development Bank
APWC	Asia Pacific Waste Consultants
CCOA	Commonwealth Clean Oceans Alliance
CDL	Container Deposit Legislation
CDS	Container Deposit Scheme
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CLiP	Commonwealth Litter Programme
Defra	United Kingdom Department for Environment, Food and Rural Affairs
EHD	Environmental Health Division of Honiara City Council
EHO	Environment Health Officer
EU	European Union
GIS	Geographic Information System
HCC	Honiara City Council
JICA	Japanese International Co-operation Agency
J-PRISM	Japanese Technical Co-operation Project for Promotion of Regional Initiative on Solid Waste Management
J-PRISM II	Japanese Technical Co-operation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II
KG	Kilogram
LEAF	Learning and Ecological Activities Foundation for Children (LEAF) Project
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MID	Ministry of Industry and Development
MHMS	Ministry of Health and Medical Services
NGO	Non-Government Organisation
PIDOC	Pacific Island Database of Counterparts
PICS	Pacific Island Countries
SBD	Solomon Islands Dollar
SI	Solomon Islands
SID	Small Island Developing States
SMART	Specific, measurable, attainable/achievable, relevant, timely
SPREP	Secretariat of the Pacific Regional Environment Programme
SWM	Solid Waste Management
UNEP	United Nations Environment Program
WCRA	Waste Contractors and Recyclers Association of New South Wales
WMAA	Waste Management Association of Australia
WMPC	Waste Management and Pollution Control
WRIA	Waste Recycling Industry Association

1 Introduction

1.1 Project need

Although the effects of pollution on marine ecosystems have been extensively studied, the impacts on human health remain poorly characterised. These impacts are perceived to be an emerging problem requiring increased scrutiny and attention (Seltenrich, 2015; Ocean Conservancy and International Coastal Cleanup, 2014). There is an urgency among industry, government, non-governmental organisations and environmental groups to develop tools and policies to track, capture and recycle waste (particularly plastics) before it reaches the oceans. Developing and building capacity within Pacific Island communities (PICs) has become a key priority in dealing with waste management and the prevention of land- and marine-based litter.

PICs face unique and significant obstacles in developing and implementing sustainable waste management solutions to address and combat litter in terrestrial and marine environments. Organic waste, waste oils and waste from shipping and cruise liners also produces a unique challenge for the area. Globalisation has had a substantial impact on the amount of waste generated within communities, due in part to increased affluence and consumer-based lifestyles which rely heavily on imported goods. The waste challenges for island communities are considerable. These challenges are often tethered to isolated geographical location and physical size and exacerbated by lack of suitable land availability for waste management solutions such as transfer stations, waste treatment and disposal sites, and recycling and reuse facilities. Other obstacles, including the topography and location of some communities, as well as resourcing and infrastructure limitations, mean that many communities, especially those in remote locations, have limited or no access to sustainable waste management. As a result, waste is often dumped, burned or buried, leaving it susceptible to dispersal into the environment.

Transboundary marine litter is another issue facing PICs, with many livelihoods dependent on the continuing health of the ocean. Creating a balance between satisfying the economic aspirations of increasing populations while maintaining healthy marine and terrestrial environments is of major importance in reducing risks to human health, as well as the terrestrial and marine ecosystems. Major waterways are capable of transporting a substantial amount of waste and litter. Up to 90 per cent of marine litter consists of plastics originating from both land- and sea-based sources (UNEP and GRID-Arendal, 2016). Plastic debris from the land comes primarily from two sources: first, ordinary litter; and second, waste disposed of at open dumps, landfills or illegally dumped waste which then becomes airborne or washes into the ocean from inland waterways and wastewater outflows (Jambeck, J.R. et al., 2015). Marine sources of plastic debris are more nuanced but arise from shipping activities related to transport of goods, services, tourism and fishing.

It is estimated that in the Asia–Pacific region the cost of marine litter to marine industries is a minimum of €1.26 billion per year, including losses from tourism, entangled ship propellers and time lost for fishing (McIlgorm, A., et al., 2008). In the EU, it has been suggested that the cost for coastal and beach cleaning is about €630 million annually (Acoleyen, M., et al., 2013; Werner, S., et al., 2016).

Preventing pollution, especially plastics from entering the environment, requires focused efforts on behaviour change (for example, reducing reliance on single-use plastics), improvements in waste management and developing a more sustainable lifecycle for wastes such as plastics. The steps to improve poor systems of waste management or mismanagement of waste rely on quantifying the scale of the problem, including the sources of plastics leakage and other wastes into the system. To date, this quantification has not happened. Gaps in local capacity to deal with the issues, as well as details of infrastructure and management systems, need to be quantified and linked to the leaked waste.

1.2 The Commonwealth Litter Programme (CLiP)

The Commonwealth Litter Programme (CLiP) will support developing countries across the Commonwealth to advance national litter action plans focusing on litter, including plastics, entering the oceans. The programme is starting in the South Pacific Region, working with Vanuatu and Solomon Islands, and this project forms a part of the programme.

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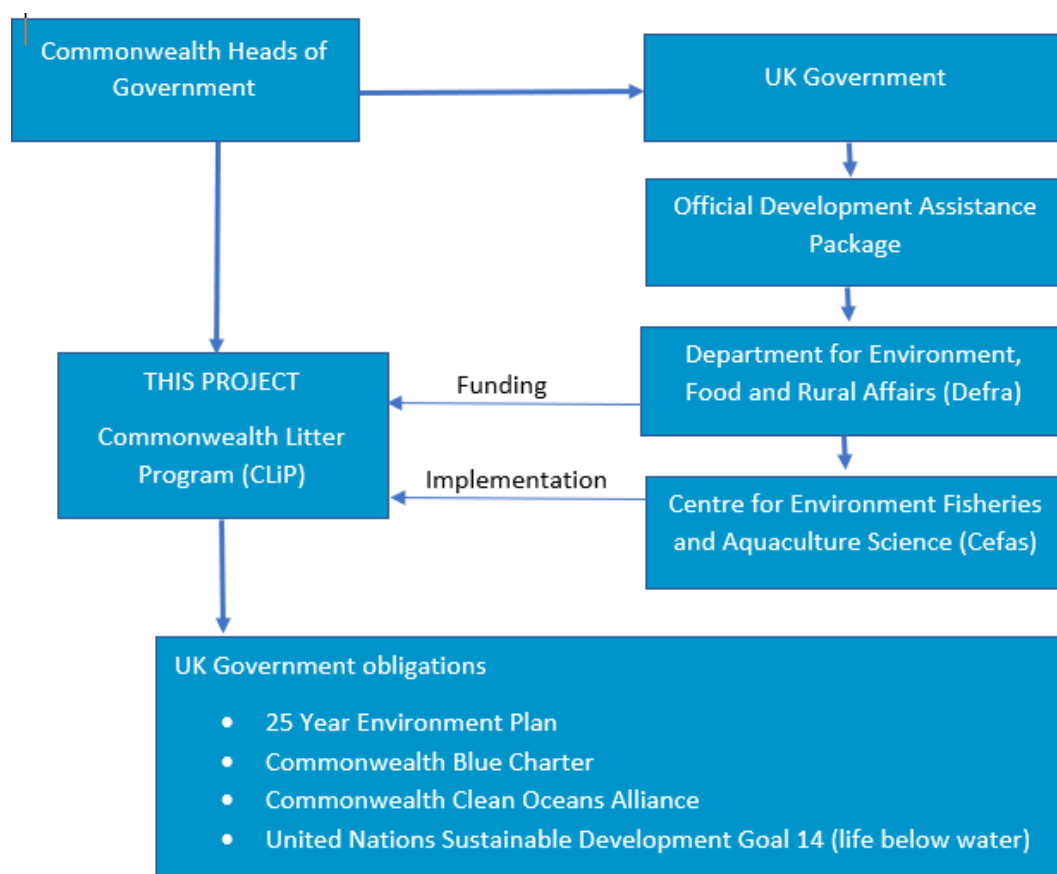


Figure 1: Project delivery organisations

The Department for Environment, Food and Rural Affairs (Defra) funds the CLiP, led by the UK through Cefas. Cefas is the UK's largest applied marine science organisation. It shapes and implements policies through scientific and collaborative relationships that span the EU, UK government, non-governmental organisations, research centres and industry.

The programme contributes to the UK meeting its responsibilities under the Commonwealth Blue Charter, which calls for Commonwealth countries to drive action and share expertise on issues affecting the world's oceans, including marine litter. CLiP will contribute to delivering the objectives under the UK- and Vanuatu-led Commonwealth Clean Oceans Alliance (CCOA), which calls on other countries to pledge action on plastics to eliminate avoidable plastic waste. CCOA also promotes actions in line with the United Nations Sustainable Development Goal 14 (life below water) to conserve and sustainably use the oceans.

1.3 This report

Asia Pacific Waste Consultants (APWC) has been engaged by the Centre for Environment, Fisheries and Aquaculture Science (Cefas) to study waste management practices in the Solomon Islands, and offer best-practice solutions and training to staff engaged in the design and delivery of waste services in the country (including provinces). This is a deliverable under CLiP.

The delivery pathways for the project are listed in Figure 2.

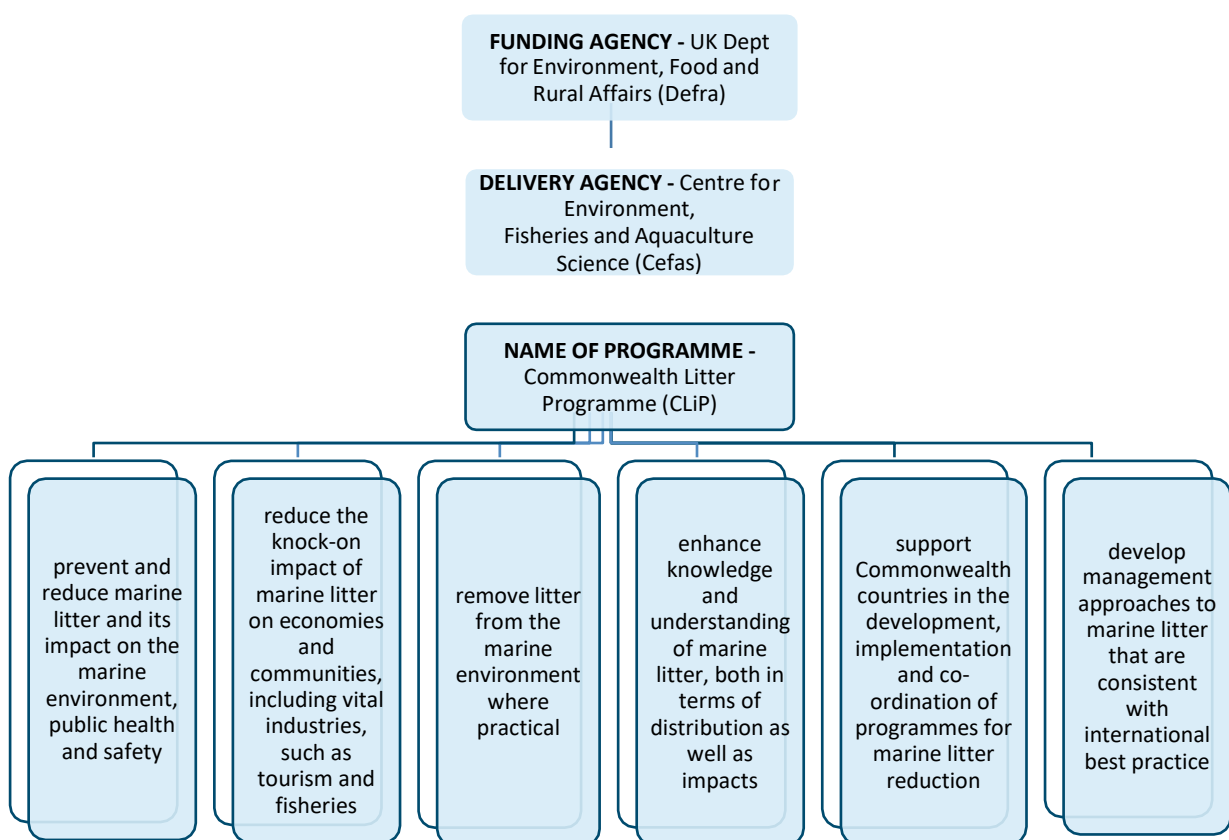


Figure 2: CLiP sponsors and objectives

APWC deliverables have three focus areas, listed below:

- Data collection on waste collection and disposal services and disposal behaviour;
- Best-practice solutions to the current situation;
- Provision of training for in-country staff.

This report deals with the third focus area of training and should be read in conjunction with the Waste Data report, Port Waste Reception Facilities report and the Best Practice report.

The report begins with a recap of the key findings of the Waste Data report, the gaps identified in services and infrastructure and recommendations for training. An overview of the training follows, with the design of the training responding to the gaps and the expected outcomes. The training for the Solomon Islands was carried out in two phases, in November 2018 and March 2019. This report provides an overview of the training provided as well as feedback received from the workshop participants.

2 Situation analysis: Training

2.1 Background

As part of the CLiP project implementation in Solomon Islands, APWC was also awarded a project to deliver an international-standard national training programme for all organisations and departments involved in waste management to help improve national monitoring, compliance and reporting.



Figure 3: List of topics covered by APWC gap analysis

The first stage of undertaking this work was to review gaps in waste management, recycling, enforcement, monitoring and prosecution of legislation to ensure that training could be tailored to requirements. To this end, APWC undertook an assessment of the current capacity of different stakeholders in Solomon Islands in the areas noted above.

APWC also undertook a review of the amount of training delivered by other service providers in this area to ensure any training programme delivered would not overlap with the existing or planned training programmes provided through Japanese International Co-operation Agency (JICA) and Secretariat of the Pacific Regional Environment Programme (SPREP).

This section highlights the gaps in service provision identified by the APWC team and the training required to bridge these gaps. The training programme to be undertaken in the Solomon Islands has been designed to ensure dissemination of information to more regional and rural areas as well as the engagement of stakeholders that may have been missed previously. For this reason, the island of Malaita has been chosen because no previous waste management training has been undertaken there by any of the previous aid programs. Significantly, Malaita has the most rapidly growing population in the Solomon Islands and has a direct shipping route to Honiara.

3 Recap: Waste data and service gaps

Waste data collection work was undertaken in November and December 2018. The APWC team was in Solomon Islands for two-and-a-half weeks and assessed waste from eight communities. In total, 218 samples were collected, with 178 rural and 40 urban samples collected from eight different communities. The rural samples were divided between two localities, with 81 samples collected from five villages along Lunga river and the remaining 93 samples collected from three communities in Malaita Province. In addition to the household samples, 46 commercial samples were assessed: 31 premises in Honiara and 15 premises in Auki (Malaita).

Interviews were conducted with all households where waste was collected to cross-reference socio-economic and waste behaviour data with the waste disposal data. APWC was able to draw upon JICA's previous work analysing waste generation rates. JICA studies are estimating the total amount of waste generated at source rather than the amount people who are willing to place waste in a bag. The comparison of the two studies shows that although waste collections systems are in place, there are matters that can be further addressed to prevent disposal of waste into the environment via waterways, burning and burying.

In summary, the key outcomes of the waste disposal research and analysis are:

- The amount of waste generated between urban and rural areas differed. Honiara generated 7.5 tonnes waste per day whereas rural areas generated 82.8 tonnes per day;
- A correlation between waste generation and the average grocery bill for an area was identified, however this did not translate down to the household level;
- Less than half of the waste generated in urban areas is being captured through waste management systems currently in place;
- All waste generated in rural areas is being disposed of through burning, burying and dumping, either on land or in nearby waterways;
- Organics and nappies are a particular problem, with dumping in waterways occurring in urban areas due to the lack of adjoining land to bury the waste;
- Existing programmes that support reuse of household organic waste within gardens are resulting in beneficial reuse rather than disposal of this waste stream.

Based on the disposal data, APWC draws the following conclusions:

- Burning is the most common way of disposing of waste in areas that are without collection systems.
- Although the collections in Honiara are unreliable and do not cover the entire city, there is a significant change in disposal behavior in comparison to localities without a system in place.
- The provision of a collection service would be a good first step for areas beyond Honiara. In Honiara, the collection service needs to improve in terms of reliability and consistency.

Figure 4 lists the top 10 individual items disposed of in Solomon Islands and the proposed best-practice actions to manage these items.

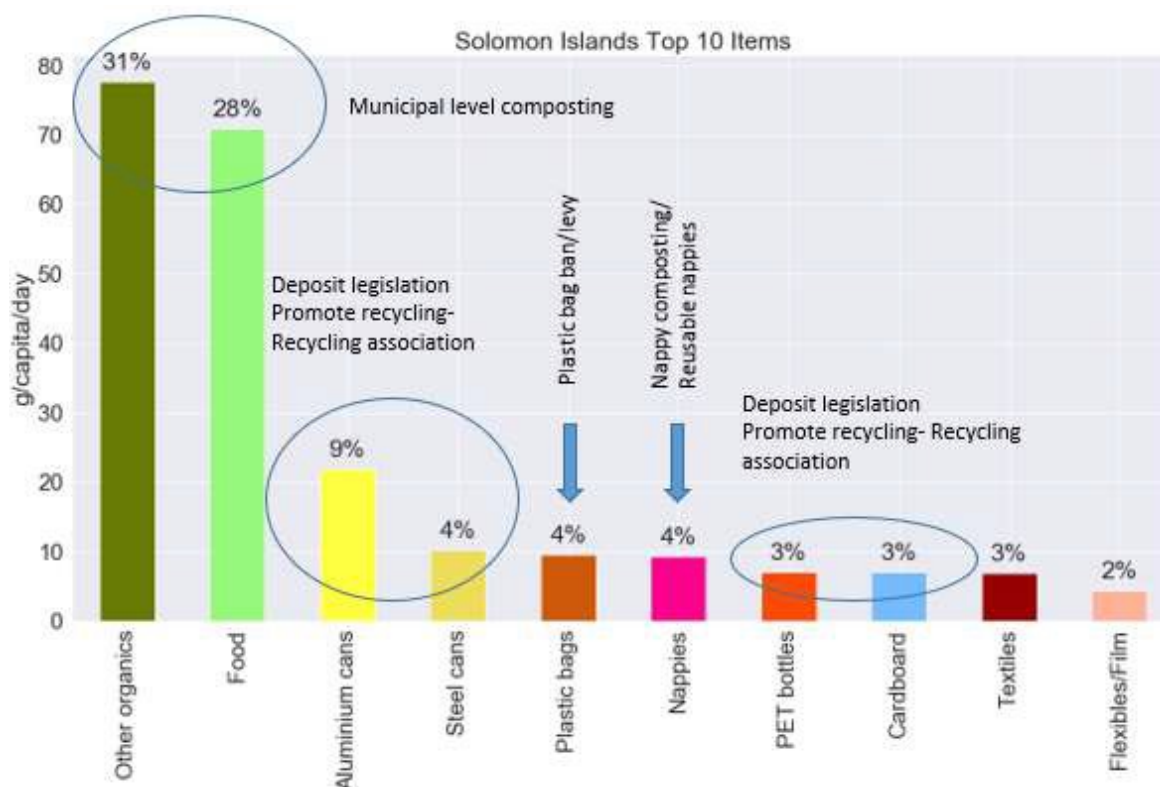


Figure 4: Solomon Islands – top 10 waste items and proposed solutions

Best-practice actions are proposed based on both qualitative and quantitative data included in the Waste Data report. Given the desperate need for Solomon Islands provinces and Honiara to extend or find suitable land for landfilling, separation of organics and composting seems the obvious first step to recoup some more space in landfills nearing capacity.

Commercial sources had comparatively more paper and e-waste and less hygiene and metal waste than household sources. Both had similar quantities of organic waste. Somewhat expectedly, retail trade and administrative services produce a much larger amount of paper and cardboard waste as compared to accommodation and restaurants. All types of commercial premises produced large quantities of recyclable plastic and metal whereas administration offices generated a substantial quantity of e-waste.

The best-practice actions proposed below also include the wastes generated in commercial premises. Town councils and provincial governments might be able to exercise a greater degree of control over commercial premises through licence conditions. This could lend itself to faster reform for the sector as compared to household waste.

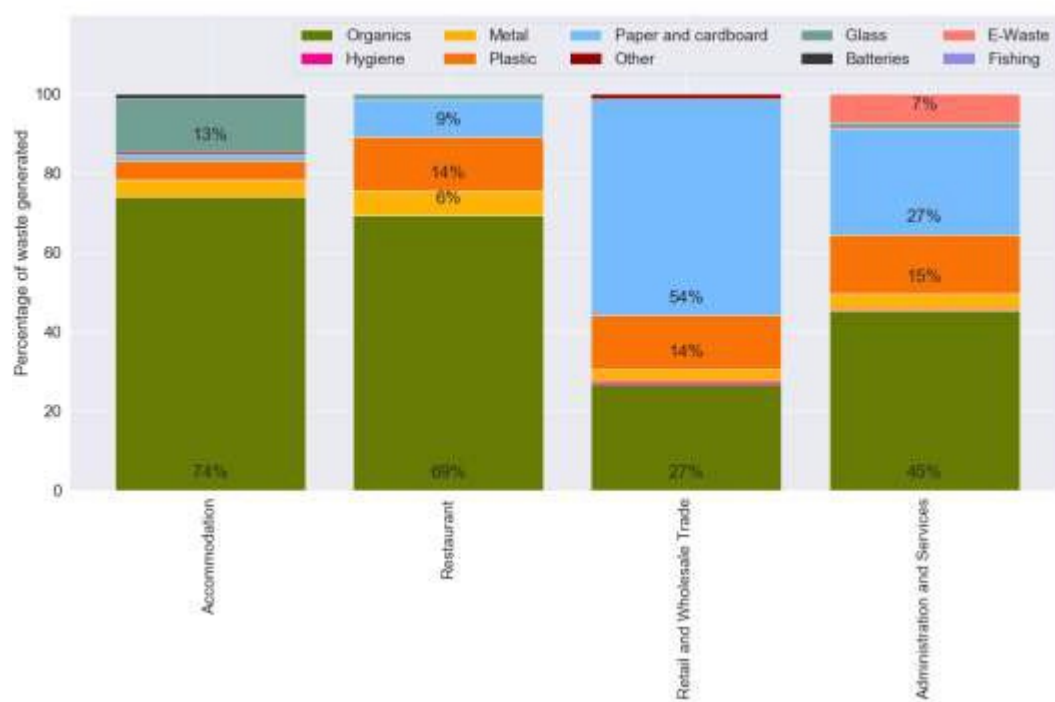


Figure 5: Solomon Islands waste composition by business type

3.1 Service gaps

The following gaps have been identified in the provision of waste management services in Solomon Islands.

Table 1: Gaps in overall waste management in Solomon Islands

Theme	Gaps
Policy/legislation	<ul style="list-style-type: none"> There is confusion as to where ultimate responsibility for waste management lies. Although the environment health officers (EHO) are responsible for delivery and implementation of waste management projects in Honiara and around the country, the Ministry of Environment has taken the lead in developing a national solid waste management plan (NSWMP). Although the Ministry of Environment developed the NSWMP, no resources have been allocated to the implementation of the plan. The plan also does not identify how it will use the Ministry of Health resources to implement the actions. The plan also lacks tangible targets or goals. There are no current solid waste management plans at the provincial or local level for the country. The only ordinance empowering HCC to implement waste management is the litter ordinance with its 7-metre rule (HCC litter ordinance). There is no law making it compulsory for HCC to collect a payment for dumping material at the dump site.

Theme	Gaps
	<ul style="list-style-type: none"> There are no robust financial mechanisms that allow for HCC or provincial governments to fund their waste management activities.
Data collection and decision making	<ul style="list-style-type: none"> All waste data (household collection and disposal as well as litter and dumping data) is collected with the help of JICA volunteers. There is no internal capacity within local councils or provincial staff to use data for decision-making processes. Not only is there no capacity to analyse the data collected by various external organisations, the analysed data (where provided) is also not being utilised appropriately. The Ministry of Environment staff are seeking technical assistance to help them to develop a manual that would include all data collection protocols as well as the process of analysis and utilisation of this data for decision making. While most international waste data collection is focused on household waste management, there is no clarity on who should collect litter data and then use it to make decisions around litter reduction. Data for incoming waste is not collected at the Ranadi dump site. Landfills do not charge a fee for dumping. Most provinces don't have landfills or even managed dumping spaces. Most islands don't have any waste disposal facilities or any accounting for what is happening with their waste.
Economic instruments	<ul style="list-style-type: none"> There is no income from waste management activities currently coming into HCC or any other province. The business houses are charged a small levy. All income/expenditure for waste management is not clearly accounted for. The budget for solid waste management is limited. Although provinces are thinking about having financial mechanisms in place, it is not currently the case. None of the landfills/dumps charge a fee for disposal. There are no financial incentives in place in the form of export tax breaks for recycling activities and shipping of recyclable materials overseas.
Collection services	<ul style="list-style-type: none"> Domestic collection services are provided by HCC only. The collection services in HCC are also limited to the urban areas only but an expanding population and expansion to the peri-urban areas will require services and substantial support. The services in provinces are ad hoc and basic.
Equipment and maintenance	<ul style="list-style-type: none"> Collection vehicle breakdown time due to lack of spare parts is a significant issue. There is limited stock of spare parts. Maintenance and mechanical capacity is limited. There were broken-down collection trucks in each of the municipal councils visited. HCC needs more collection trucks with access to spare parts.
Contracts and tenders	<ul style="list-style-type: none"> Private contractors are being used by HCC in some areas and this option should be explored further by HCC and provincial governments. Tender and contract management capacity is limited in the assessed council and the provincial governments.

Theme	Gaps
Landfill design and management	<ul style="list-style-type: none"> • Current landfill capacity is extremely limited for Ranadi. • There is an urgent need to find an alternative suitable landfill site. • None of the dumping sites in the provincial areas are controlled, sanitary or safe. • No landfill cover was seen on any of the dump sites visited. • Heavy equipment for compaction is not available or is very limited. • HCC and provincial governments are dependent on hired heavy plant and equipment to manage landfill, which also has a propensity to break down. • All landfills have waste pickers of all ages and genders working in very unsanitary conditions. • At landfills, waste picker activity is not regulated or formalised.
Education and engagement	<ul style="list-style-type: none"> • There is one awareness activity being undertaken by both HCC and provincial government aimed at educating youth about the 3Rs. • Waste education/awareness is missing or limited in provinces and outer islands. • There is no co-ordination between the many national and international projects being undertaken in the waste space. • There is no staff capacity within either the Department of Environment nor within council to undertake this co-ordination. • There are no staff currently undertaking or responsible for waste education or awareness activities.
Recycling	<ul style="list-style-type: none"> • Recycling of aluminium cans is currently taking place in the Guadalcanal province. This can be strengthened through a CDS or similar with a proper economic incentive. Currently \$2–3 SBD per kilogram is insufficient to motivate the broader community. • Organics are not being composted or even source-separated at a large scale. • Market waste is currently going to the landfill at HCC. This is not the case in Auki. • There is some education for source separation and composting, most of which is well practised where implemented. There is a large number of communities that have received no education or awareness. • Recycling capacity in Solomon Islands is limited by the lack of awareness of markets for sale of recyclables, prohibitive shipping costs and lack of availability of simple, bespoke recycling infrastructure.
Monitoring	<ul style="list-style-type: none"> • There is no monitoring and evaluation being undertaken for the NWMPCS or for the local solid waste management plans. • There is no internal capacity within either the department, councils or provincial government to do so.
Training	<ul style="list-style-type: none"> • Some staff have had extensive training under the JICA, EU and other regional projects whereas others have had none. There is a disparity between waste management capacity between HCC in the urban areas and staff in provinces.

3.2 Stakeholder mapping

The APWC team spent three weeks during late November and early December 2018 in Solomon Islands to understand the current staff capacity to implement waste management initiatives in both Guadalcanal and Malaita Provinces. Engagement was also undertaken with local authorities in the Western Province through the Port Waste Facilities project through CLiP. The outcomes of the project have been presented in the Port Waste Facilities audit report.

Figure 6 lists and categorises the stakeholders consulted to assess the existing capacity gaps and to determine training needs to improve waste management in Solomon Islands.

Please note that this list excludes port authorities and those involved in managing ship waste and medical waste. A separate report (Port Reception Waste Facilities Review – Solomon Islands) detailing the consultation process for those wastes has been provided to Cefas, as part of CLiP.

National & international agencies	Municipal council	Recyclers	Provincial Government, islands & contractors
<ul style="list-style-type: none"> • Department of Environment (PS and Staff) • SPREP • JICA (J-PRISM II) 	<ul style="list-style-type: none"> • Town clerk – HCC • HCC chief environmental health officer • HCC works manager • HCC landfill manager • HCC health officers • HCC director of communications 	<ul style="list-style-type: none"> • BJS recycling • Bevan Vollrath – President of Recycling association • Small-scale battery recycler • Small-scale metals recycler • Lindsey Teobasi – plastics recycler • David Nunn- Proponent of future WtE plant 	<ul style="list-style-type: none"> • Chief Health Officer - Malaita Province • Director of Health - Malaita Province • Chief Accountant- Malaita Province • Paramount Chiefs - five communities in Guadalcanal and three in Malaita • Market Manager- Auki

Figure 6: Stakeholders consulted in Solomon Islands regarding training needs

Based on consultation, APWC notes there has been considerable effort invested in staff training in the municipal councils through J-PRISM and SPREP. The list of trained personnel in each Pacific country (PIDOC – Pacific Island Database of Counterparts) has been obtained from JICA.

This training has had a positive impact, with counterparts at both national and municipal level understanding gaps in their knowledge and capability. By contrast, counterparts at regional and provincial levels have been largely left out of the loop. The situation lends itself to the municipal councils having a higher degree of capacity and a greater proportion of trained staff, while regional and provincial staff continue to require training in basic waste management practices.

This disparity has been identified by JICA and SPREP and there are plans under Japanese Technical Co-operation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries Phase II

(J-PRISM II) to have the previously trained local counterparts deliver in-country training to help progress the level of local experts within each country. This encourages and builds capacity and capability within the country.

The staff trained through the PIDOC process co-presented with APWC at the training workshop in March 2019. This led to robust discussions from the highly receptive audience and also helped empower local experts to gain confidence in training their counterparts. APWC workshop facilitation slides and notes were provided to both the Ministry of Environment and Honiara City Council (HCC) and will be used for the upcoming workshop for development of the waste management action plan for Tulagi.

3.3 Training gap analysis

Each stakeholder was consulted on their current workload, capacity to deliver services, their previous training history, their history with the organisation as well as their understanding of the gaps in their training and capacity. Nine major themes emerged, which are presented below.

Theme	Gaps Identified
1. Basic data collection and management skills (government officials, contractors and community groups)	<ul style="list-style-type: none"> • Data collection on household waste generation and litter • Data collection from landfills and dumpsites • Understand trends in waste data • Use data collected for decision making
2. Design and implementation of waste collection systems (government officials)	<ul style="list-style-type: none"> • The option of setting up in-house vs. contracted out model of waste collection • How to monitor effectiveness of collection systems if in-house or contracted out
3. Design and implementation of economic instruments (government officials, contractors)	<ul style="list-style-type: none"> • How to design and implement any or all of the following (include policy, by-law and legislation): • User-pays system (post-use fee collection) • Pre-paid bag system • Green fees • Bans
4. Equipment and maintenance (government officials, contractors)	<ul style="list-style-type: none"> • Acquisition of vehicles that can be used and maintained in the long term • Collection vehicles maintenance and stock management of spare parts • Landfill heavy equipment maintenance and stock management of spare parts
5. Contracts and tenders (government officials)	<ul style="list-style-type: none"> • Design of tender processes and evaluation • Design of contracts for pre-paid bag systems, CDL, collection contracts, contracts for hire of equipment
6. Landfill design and management (government officials)	<ul style="list-style-type: none"> • Determine the next stage of landfill design or management for each country • Help staff be ready for the next stages
7. Education and engagement (government officials/NGOs)	<ul style="list-style-type: none"> • Use case studies to help staff, community groups learn about best practice for engagement
8. Waste management strategy and monitoring (government officials/NGOs)	<ul style="list-style-type: none"> • Waste strategy development and development of a monitoring framework
9. Recycling (government officials and)	<ul style="list-style-type: none"> • Help recyclers find the best market for their products • Train government officials in EPR projects such as CDL

Figure 7: Gap analysis

Based on previous training delivered by J-PRISM, SPREP, EU and other projects, APWC decided to split the training into two phases.

1. **Phase I:** Waste data collection and monitoring;
2. **Phase II:** Use of data for decision making, capacity building through technical training and collaboration with other counterparts.

The staff already trained through previous projects (local experts) were trained on themes not yet covered or those proposed to be covered under the J-PRISM II training programme for 2019. This was done through the best practice showcase and seminar series held in Australia. The result of the best practice showcase has been presented in the *Best Practice Showcase report – Solomon Islands*.

However, in order to ensure that training is not only limited to staff in the major municipalities, the training was extended to provincial staff through a training workshop delivered by local experts and facilitated by APWC staff. The training programme is discussed in section 5.

According to J-PRISM II training programme for 2019, Vanuatu and Solomon Islands will have training delivered on the following topics:

- Collection vehicles maintenance and stock management of spare parts (direct management);
- Other economic instruments design/development (green fee, environment tax, etc.);
- Container deposit legislation (CDL).

JICA is also promoting the establishment of a waste management association in both Vanuatu and Solomon Islands. WMAA (Waste Management Association of Australia) and WCRA (Waste Contractors and Recyclers Association of New South Wales) were involved in providing the training for those staff attending the best practice showcase in Australia. This will also help create ongoing relationships between the associations from each country with each other, as well as with WMAA and WCRA in Australia.

4 In-country training – Phase I

APWC trained a number of staff from HCC and Malaita Province in data collection and auditing (including paperwork and staff interviews) during the scoping visit in November 2018, in each of the locations visited. The names and designations of staff trained is provided in Figure 8. This helped build in-house capacity for the two organisations and the experience gained will assist in conducting further audits by the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM).



Image 1: Staff being trained to conduct waste audits at Honiara

APWC engaged local council staff in the process of developing the protocol for the waste audits, undertaking collections, sorting of waste, recording the observations as well as inputting data for analysis. The local staff also helped APWC staff in undertaking interviews. The various steps are described in Section 4.1.1.

4.1.1 Developing a protocol

The principles of the waste audit were explained to HCC staff and they were asked to provide information around the following:

- a) Collection routes;
- b) Number of collection vehicles;

- c) Collection methodology;
- d) The availability of sort site;
- e) The availability of sorting containers;
- f) Their understanding of the waste audit process.

APWC acknowledges that due to J-PRISM's waste auditing process, most local council staff were aware of the requirements and principles behind waste auditing. APWC staff used this existing foundation to explain the process required for the methods used, using the council staff's experience to co-design the on-ground operations for the audit.

4.1.2 Waste collection and interviews

Council staff accompanied APWC's collection supervisor over the course of all collections to familiarise themselves with the processes and methods used to collect and record data using the data-collection sheets and selecting the geo-location of collection sites.



Image 2: HCC staff undertaking household interviews under direction

An interview was conducted with each household participating in the waste collection audit to assist in understanding and analysing waste disposal behaviour.

4.1.3 Waste sorting

Staff from both HCC and Malaita Province were trained to undertake waste sorting to the high-level categories used by APWC as well as the CDS sorting categories.

The APWC sorting supervisor spent three hours on the first day explaining the waste audit code of conduct, the required outcomes from the audit, and the work, health and safety considerations during the audit process to local staff.

All sorting activities were undertaken with local staff and they were constantly supervised.

Further staff were trained in completing all required paperwork based on the sorting process, which is then usually transcribed into an Excel database for analysis.

Overall, 10 staff members were trained across Solomon Islands in sample collection, sorting, recording information and conversion to Excel database.

Figure 8 below presents the staff trained as well as the training already provided.

Staff trained	Topics of training
<ul style="list-style-type: none"> • HCC staff trained <ul style="list-style-type: none"> • Joe Kelesi (Landfill manager) • Ricky Lui • Paul Shotelia • Bua Ramo • Michael Gereia • 2x Environmental health inspectors HCC • 2x HCC graduate interns • Malaita Staff trained <ul style="list-style-type: none"> • Paul Sculf Iro (Waste management officer Auki) 	<ul style="list-style-type: none"> • Topics covered are below: <ul style="list-style-type: none"> • Collection of samples and completing corresponding paperwork • Sorting of garbage and recycling • Identification of materials to 40 categories • Recording information • Conducting stakeholder interviews <ul style="list-style-type: none"> • Households • Commercial premises

Figure 8: Staff trained in-country for Solomon Islands

5 In-country training – Phase II

Following the Best Practice Showcase, APWC was able to refine and develop Phase II of the country-specific training to focus on closing the gaps in service and support the waste management strategies that would lead to the greatest improvements.

During the waste auditing and training work completed by APWC under the Cefas CLiP project in Solomon Islands, APWC noted the absence of waste management plans in some municipalities and councils. It is generally believed that one of the contributing factors to the lack of progress made at the municipal and council level is the absence of proper waste management plans to guide the government agencies in making the required improvements. This has resulted in a stagnation of progress in rural areas, including the outer islands.

With the help of Solomon Islands Ministry of Environment, a concept note was developed and circulated among the ministries of Environment, Education and Health as well as HCC to develop a two-day workshop programme with contributions from each of the departments. The aim was to develop a programme to guide local stakeholders in any province through the various steps required to develop a Waste Management Action Plan. The first of these workshops was delivered under the guidance of APWC and facilitated by APWC's project director, Amardeep Wander. The aims and outcomes of the workshop are provided in the following sections of this report. The table below lists the attendees of the two-day workshop, all representing various stakeholders from Malaita Province.

Table 2: Attendees of Phase II training

No:	Name	Gender	Post title	Organisation
1	Gloria Ripiapu	F	Chief health inspector	Environmental Health Division
2	George Waleka	M	Head of Division	Local Council & Regional Affairs
3	Ben Laufa	M	Maintenance supervisor	Local Council
4	Nestor Rara	F	Health promotion officer	Health Promotion Department
5	George Hoatamauri	M	Provincial lands officer	Lands Division
6	Frank Samo	M	Head of Division	Malaita Provincial Youth Division
7	Nickson Olofisau	M	Infection Control Officer	Infection Control Programme
8	James Hagi	M	Market Master	Market Management – Auki
9	Martin Jasper	M	Senior fisheries officer	Ministry of Fisheries
10	Jackson Leaburi	M	Tourism officer	Division of Culture & Tourism
11	Ellen Leaga	F	Revenue officer	Finance & Treasury Division
12	Paul Sculf Iro	M	Waste management officer	Environmental Health Division
13	Solomon Salebua	M	Vice President	Malaita Entrepreneurs Association
14	Marta Rurai	F	President	Malaita Province Women's Council
15	Sidonia Renky	F	Church rep	Anglican Church of Melanesia (ACOM)
16	Christina Wale	F	Church rep	Roman Catholic Church
17	Rose Kala	F	Vice President	Inter churches
18	Solomon Lofana	M	Media rep	<i>Solomon Star</i> – Auki
19	Kesti Kifo	M	Landlord	Resource Owners for Waste Management
20	John Siru	M	Community rep	Urban/Rural

21	Tommy Esau	M	Research support officer	Atoifi Hospital
22	Judith Aliakbari	F	Consultant dietitian	The Hilltop Training Institute
23	Calisto Dala	M		Department of Education
24	Jackson Rahemea	M	Education officer	Department of Education
25	Donald Utu	M	Student	Observer
26	Joy Rawa	F	Auki Market Vendor Association	Auki Market Vendor Association
27	Kathryn Pearson	F	Representative	Malaita Province Women's Council
28	Richard M	M	Human Resources	Malaita provincial government
29	John Sina	M	Team member	Youth@work
30	Masia Vaieke	F	Lecturer	Malaita Technical Institute

In addition to the above staff, 12 city sweepers and cleaners were also present during day one of the workshop when data was presented and their role in the waste management for the Auki township was discussed. Table 3 outlines Phase II training programme agenda.

The waste management workshop was facilitated by APWC with support from six staff members from the Ministry of Environment, Ministry of Health and HCC. These staff are listed below:

Table 4: Solomon Island local expert speakers at the workshop

Name	Organisations	Involvement
Wendy Beti	Ministry of Environment	Logistics, presentation at the workshop, community education, follow-up
Enoch Fa'abasu	Ministry of Environment	Presentation at the workshop
George Titiulu	Honiara City Council	Presentation at the workshop
Bobby Patterson	Ministry of Health	Presentation at the workshop
Mezie Biliki	Plasticwise Gizo	Workshop for local ladies
Amarlyn Kaqubule	Plasticwise Gizo	Workshop for local ladies

5.1 Objectives of the workshop

The main objectives of the workshop were as follows:

- 1) Enhancing the planning, presentation and writing skills of the staff responsible for waste management at the national, municipal and local level. The skills developed include helping rural communities in the planning and development of simple and brief annual waste management plans in line with the National Waste Management Strategy of Solomon Islands.
- 2) Improved national co-ordination and implementation of the national waste management strategy and action plan at the provincial level.
- 3) Supporting the development of local waste management specialists and experts in Solomon Islands for on-going provision of the waste management technical advice and assistance to the government and people of Solomon Islands.

5.1.1 Upskilling of local staff: Enhancing the planning and writing skills of the responsible staff at the municipal and council level in planning and developing simple and brief annual waste management plans in line with the National Waste Management Strategies and Action Plan of Solomon Islands.

In accordance with the National Waste Management Strategy and Action Plan (Ministry of Environment, Conservation and Meteorology, 2009) staff from the provinces learned how to identify, prioritise and plan for the implementation of these actions at their province in accordance with the available resources and situation in their province. A simple waste management plan format was used as a basis of all group discussions and to guide the development of actions. As a result of the workshop, a draft waste management action plan was developed. This plan is being compiled by the Ministry of Environment and will be circulated among all participating organisations for approval. The plan will then be presented at a follow-up workshop in the July–September 2019 quarter in Auki before being formally adopted by the Malaita provincial government. The follow-up workshop will be conducted by the Ministry of Environment staff that co-presented at the workshop organised by APWC in March 2019.

5.1.2 Improved co-ordination among national and local agencies: Improved national co-ordination and implementation of the national waste management strategies and action plans at the municipalities and councils.

Through this workshop, the Ministry of Environment established contacts with the participating staff and workers responsible for the promotion of the National Waste Management Strategy and Action Plan implementation in the provincial government. With the development of the supporting waste plans, the Ministry of Environment can use this opportunity to support the provincial government staff through the national government annual budget as well as regional and bilateral waste management programmes and projects focusing on different waste management areas, including the Marine Litter Action Plan coordinated and promoted by the CLiP Project.

5.1.3 Local waste management specialists: Supporting the development of local waste management specialists and experts in Solomon Islands for sustainable provision of the needed waste management technical advices and assistance to the governments and people of Solomon Islands.

Supporting the regional staff skills development approach promoted by SPREP and J-PRISM II, this workshop was led and delivered by the listed regional local waste specialists and experts in the Pacific Islands Database of Counterparts (PIDOC) administered by SPREP. The outcome of this workshop (in the form of this report), once approved by Cefas, will be provided to JICA and SPREP for reviewing and updating the current rating status of the involved local waste experts in the SPREP PIDOC. This is important in building and enhancing these local waste experts for future recognition in similar waste management programmes in Solomon Islands as well as in the other Pacific Island countries (PICs) if their expertise is needed and requested.

5.2 Key expected outcomes

The training delivered in Phase II from 25 March through 28 March 2019 of the Solomon Islands programme targeted the following outcome areas:

5.2.1 Draft waste management plan for Malaita Province

The participating staff and stakeholders from the various departments, businesses and NGOs in Malaita Province produced a draft Malaita waste management action plan at the end of the workshop, which will be further revised in collaboration with the Ministry of Environment in Solomon Islands until it is finalised and approved by the Malaita Provincial Government.

5.2.2 Enhanced co-ordination among agencies: Improved future communication and collaboration between the Ministry of Environment, stakeholders and the municipalities

The workshop brought together all key staff and officials responsible for waste management, generation and recycling throughout Malaita. Given the Ministry of Environment was heavily involved in stakeholder consultation in the lead-up to the workshop, as well as having a strong presence during the workshop, this event has the potential to form the basis of future communication and collaboration between the Ministry of Environment and the province. It was considered a successful platform by all attendees, as not only was a draft action plan developed, the actions were assigned to stakeholders along with specific time frames.

The first action in the draft Malaita waste management action plan was the development of the Malaita Waste Management Committee and all stakeholders present at the workshop were asked to nominate a member to be a part of this committee. The committee is tasked with ensuring that the draft Malaita waste management action plan developed during the workshop from 25–28 March is formalised and the actions are implemented and reported. Sixteen members were nominated to the committee, with the first meeting scheduled for May 2019 after the Solomon Island federal elections. The list of members nominated to be a part of the committee is as below:

Table 5: Members of the first Malaita Province Waste Management Committee

Name	Organisations
John Sina	Youth@work
John Siru	Community representative
George Waleka	Auki City Council
Ben Laufa	Local council (maintenance supervisor)
Solomon Salebua	Ministry of Education
Frank Samo	Malaita Provincial Government (Planning)
Sidonia Renky	Dom/Church
Rose Kala	Inter church Rep
Donal Utu	Malaita Environmental Force (MEF) – Youth Env. Organisation
Ketsy Kifo	Village chief at location of future landfill
Masia Vieke	Malaita Technical Institute
Ellen Leaga	MPG (Revenue)
Katheryn Pearson	MPCW (Malaita Provincial Council of Women)

Nixon Olofisau	MHMS (Kilufi)
Gloria Siwainao	MHMS (Ministry of Health municipal services)
Paul Iro	MHMS (Ministry of Health municipal services)

The committee has the potential to become a platform for the participants from the March 19 workshop to meet in the future to monitor their progress with the implementation of the annual Malaita waste management plan and to develop the next annual Malaita waste management plan based on the progress made from the first plan.

5.2.3 Supporting the development of local waste experts and specialist skills and experiences in Vanuatu and Solomon Island

An opportunity of this kind is important for the local staff and officials to demonstrate their skills and experience. As full-time government staff, they do not have the to demonstrate and display their full capacity in the implementation of different waste management tasks. As listed Local Waste Experts and Specialists in the SPREP Database (PIDOC), this workshop provided them an opportunity to upgrade their points and grades through demonstrated ability to present relevant information to their peers, lead group discussions and provide useful and relevant information.

5.3 Proposed Programme

The training was delivered from 25-28 March 2019. The training program is provided below.

Table 6: Training programme – Phase II Solomon Islands

Venue: Bahai Centre		
Facilitator: Amardeep Wander		
Preparation day: Monday 25 March 2019		
Courtesy meeting with Acting Premier		
Community engagement activities with the local school		
DAY 1: Tuesday 26 March 2019		
8:00–8:30am	Registration	All
8:30–8:35am	Opening prayer	Church rep
8:35–8:45am	Welcoming & Opening Remarks	Mr Robert Feratalia, Deputy Provincial Secretary, Malaita Province
8.45–8.50am	Objectives & Expected Outcomes Presentation 1 – Workshop Objectives and Expected Outcomes	Presenter – MECMD
8.50–9.00am	Overview of WM in Solomon Islands Presentation 2 – Overview of Waste Management in Solomon Islands – Overview, roles & responsibilities of stakeholders & NWMPC Strategy	
9.00–9.10am	<i>Discussion – Questions & Answers (10 mins)</i>	Facilitator
9.10–9.20am	Practices, Initiatives & Challenges Presentation 3 – Current Practices, Initiatives & Challenges	Presenter- MECMD

9.20–9.25am	<i>Discussion – Questions & Answers (10 mins)</i>	Facilitator
9.25–9.40am	Relationship between WM & Environment & Health Presentation 4 – Relationship between Health and Waste Management	Presenter- Bobby Patterson, MHMS
9.40–9.55am	Presentation 5 – Environment & Waste Management Linkages to NWMPC Strategy 2017–2026	Presenter – MECDM
9.55–10.15am	<i>Discussion – Questions & Answers</i>	Facilitator
10.15–10.30am	Morning tea break	All
10.30–11.00am	Experiences & Lessons Learned – Waste Management Situation in other Municipalities Presentation – Honiara City Council Presentation 7 – Malaita Province Presentation 8 – Results of survey conducted in Auki Town in 2018	Presenters: 1. George Titulu, HCC 2. Gloria Siwainao, Malaita Province 3. Amardeep Wander, APWC
11.00–11.10am	<i>Discussion – Questions & Answers</i>	Facilitator
11.10–11.25am	Strategies & Approach Presentation 9-Integrated Solid Waste Management (ISWM) Approach	Presenter– MECDM
11.25–11.40am	<i>Discussion – Questions & Answers</i>	
11.40–11.55am	Presentation 10 – Functional Components of ISWM	
11.55–12.00pm	<i>Discussion – Questions & Answers</i>	Facilitator
12:00–1:00pm	Lunch Break – All	All
1.00–1.15pm	Development of Waste Management Plan Presentation 11 – How to Develop a Waste Management Plan/Action Plan incorporating the above aspects	Facilitator & Presenter – Amardeep Wander
1.15–3.00pm	Developing the Implementation Plan and indicated Budget (Break out into five/six groups)	
3.00-3.15pm	Afternoon tea break-All	
3:15–4:30pm	Turning Wastes into Resources – Practical Demonstration & Hands on practical exercise	Facilitators: Plasticwise Gizo Amarlyn Kaqubule & Mezie Biliki
4:30pm	Wrap up for the day	Facilitator – Amardeep Wander
DAY 2: Wednesday 27 March 2019		
8.00–8.30am	Arrival of participants & team	All
8.30–8.40am	Opening Prayer	Women Rep
8.40–9.00am	Recap of Day 1	Presenter – MECDM
9.00–9.15am	Presentation 12 – Summary of past and current situation of SWM in Malaita Province	
9.15–10.00am	Group Work – Working on Draft Waste Management Plan/Action Plan	Facilitator – Amardeep Wander
10.00–10.15am	Morning tea break (Working Break)	
10:15–12.00pm	Group Work – Continue working on Draft WMP/AP	Facilitator – Amardeep Wander
12.00–1.00pm	LUNCH BREAK	
1.00–2.00pm	Group Work – Continue working on Draft WMP/AP	Facilitator – Amardeep Wander
2.00–3.00pm	Group Presentations on Draft Waste Management Plans	
3.00–3.15pm	Coffee Break	

3.15–3.45pm	Group Presentations on Draft Waste Management Plans continue	Facilitator – Amardeep Wander
3.45–4.00pm	Next Steps	Facilitators – MECDM & APWC
4.00–4.15pm	CERTIFICATE PRESENTATION	
4.15–4.30pm	Closing Remarks	Mr. Robert Feratalia, Deputy Provincial Secretary, Malaita Province
4.30pm	CLOSE	

Plasticwise is a grassroots, community-based movement aiming to reduce waste. Local community members in Gizo have used the model to start Plasticwise Gizo, which seeks to collect waste and convert it in to handicrafts for sale at local markets. Anecdotally, the organisation is reducing loose plastic litter and waste from entering landfills and oceans by creating a range of usable products including bags, purses, jewellery and fans.

Plasticwise Gizo members were invited to attend the Solomon Islands in-country training and ran a parallel three-hour training session each day to demonstrate their plastic waste reuse methods. Street sweepers attended the session on Day One; the session on Day Two was held at the markets and attended by all interested market vendors.

5.4 Summary of the Phase II training experience

5.4.1 Day 1: Courtesy visits and community consultation

On Monday the 25 March 2019, the project team, including APWC, Plasticwise Gizo and the Ministry of Environment, visited the provincial government offices and paid a courtesy visit to the Acting Premier of Malaita Province. The team provided an overview of the activities to be undertaken at the workshop including the wider community consultation. The acting premier was also invited to officially close the workshop.



Image 5: Courtesy meeting with acting premier of Malaita Province

As part of the visit, MECDM also organised to undertake community education in consultation with Malaita Province's waste management officer.



Image 8: MECDM staff Enoch Fa'abasu providing waste management training to school children at Auki High School

A two-hour education session was conducted with students from Years 6 to 10 discussing littering and source separation. All educational material was provided to the provincial staff to ensure similar sessions could be presented on an ongoing basis with the remaining Auki township schools.

5.4.2 Workshop: Day One

The first day of the workshop was divided into four sessions. All sessions were moderated by APWC but each session was led by staff from Ministry of Environment, Ministry of Health and Honiara City Council.



Image 11: DPS Mr Robert Feratalia opening the workshop and Ms Wendy Beti from MECDM facilitating the first session of the workshop

The opening session started with a prayer and an official welcome from Deputy Provincial Secretary (DPS) Mr Robert Feratalia. The DPS stressed the importance of all stakeholders working together to

achieve better waste management for Malaita Province. The DPS also noted that this was the first instance of action supported by MECDM being undertaken in the province and welcomed further support in implementing actions developed as part of the action planning over the two days of the workshop.

Wendy Beti from MECDM provided an overview of the current national plans and policies, and the impacts on the waste management planning requirements for Malaita Province. This was followed by a presentation on the current waste management challenges identified by MECDM and those affecting all provinces in Solomon Islands.

There was robust discussion around the importance of the dissemination of information to all stakeholders regarding acts and policies. The workshop attendees felt it should be a requirement of MECDM to ensure all relevant stakeholders are informed of acts and policies that come into force and that continued support and assistance should be provided to integrate new policies into existing workplans and enforcement.

The representatives from Department of Planning also stated that waste management planning should be incorporated into other related acts, such as *Lands and Titles Act* and *Planning Development Act*. New developments in Auki township and Malaita Province are attracting greater waste management challenges and these are not being addressed as part of the planning process. The MECDM staff acknowledged the suggestions and will incorporate details into the internal report being produced by MECDM.

Various participants also mentioned the need to update a number of out-of-date by-laws and legislations.



Image 14: Mr Bobby Patterson presenting data on the health impacts of poor waste management; Mr Enoch Fa'abasu presenting information on the environmental impacts of poor waste management

The second session of the workshop day one focused on the impacts of waste and litter on human health and the environment. The data collected on health and environmental impacts by MECDM and Ministry of Health was presented by Mr Enoch Fa'abasu (MECDM) and Mr Bobby Patterson (Ministry of Health).

A number of impacts and solutions were proposed and debated. The following major issues emerged and these were noted for incorporation into the waste management action plan during the planning sessions later during the day. Major issues included:

- The need to connect communities with national and provincial governments to communicate community-level issues that can be reflected in plans and policies;
- The regulation of imported products at port of entry;
- The need to change community mindset to view waste as a resource and income source;
- Empowering the population using a range of initiatives;
- Expanding the scope of the current *Health Act* to capture ordinance for regulating animals, etc;
- The need to incorporate information about waste into the education system.

After this session the workshop took a break for lunch and the programme was adjusted, given the number of presentations in the first session. Representatives from Plasticwise Gizo, Amarlyn and Mezie, presented the range of initiatives being undertaken in Gizo to convert plastic waste into useful materials. Participants were actively involved in how to make one item at the event. The Plasticwise Gizo workshop was highly commended. Requests were made to MECDM and APWC to invite the organisation for more time to provide an opportunity for local women's groups to learn a range of skills as well as gain further information regarding their business model.



Image 17: Demonstration of waste-to-products by Maisie Biliki from Plasticwise Gizo

The third session of the workshop was led by Mr George Titiulu from Honiara City Council (HCC) who provided an overview of all the activities being undertaken by HCC for collection, recycling and

education of their communities. The participants especially appreciated the information provided by Mr Titulu about all the initiatives that have failed and the challenges being faced by HCC in the implementation of other initiatives. There was general consensus that there is opportunity to learn from HCC and Mr Titulu was invited to return and support the Malaita Waste Management Committee in the implementation of their action plan.



Image 20: Mr George Titulu presenting learnings from HCC (left); Ms Gloria Siwainao (right) presenting attendees with an overview of the current status of waste management in Malaita

This was followed by a presentation by Ms Gloria Siwainao on the current state of waste management in Malaita Province to provide the audience with some background and status of the various initiatives being considered by Malaita provincial government — most importantly the issue of land for the provision of a dumpsite in the province.

The final presentation was given by APWC's Amardeep Wander. Amardeep discussed results from the waste audit conducted during the APWC November 2018 visit to guide the development of the waste management action plan.

The workshop attendees engaged in a lively discussion around the need for waste management initiatives at all levels, including the actions they could take. The following key issues were discussed:

- The need for regulation on import of nappies;
- A requirement for more information around different types of products to promote recycling;
- Partnerships between line ministries and the private sectors on used lead–acid batteries;
- The importance of sharing information with other stakeholders and Auki residents on waste management programmes and initiatives to encourage co-operation of residents;
- Utilising shipping services in Auki as a source of revenue collection for management of waste;
- The need to broaden revenue collection for waste management for the sustainability of waste management activities.



Image 23: Amardeep Wander presenting APWC waste audit data for Malaita

The final session of the day required delegates to split into four groups of about six to eight. Each group was asked to list overarching goals for waste management in Malaita Province. The goals were

divided into three sections: short-term, medium-term and long-term. The participants were also asked to define the time period for their goal setting.



Image 26: Group discussion for Malatia waste management action planning and presentation of ideas

Image 27: Wendy Beti (MECDM) providing an overview of the previous day; George Titiulu delivering a summary of waste management planning principles
Image 28: Group discussion for Malatia waste management action planning and presentation of ideas

There were lively discussions around the importance of goal setting and the requirement to set SMART goals (**SMART**: Specific, measurable, attainable/achievable, relevant, timely). All participants were asked to present their goals to the rest of the room and discuss the rationale behind the goals set.

As a result of discussions, the group decided on the following goals for action-plan development:

- a) Short-term – one to two years:
 - a. Develop a model for waste waste collection and disposal for Auki township (Year 1)
 - b. Implement the waste collection to Auki township only
- b) Medium-term – five years
 - a. Acquire and build a disposal site
 - b. Waste collection services to Auki township ongoing (ensure financial sustainability through the introduction of revenue-collection model)
- c) Long-term – 50 years
 - a. All of Malaita to have a sustainable waste collection, disposal and recycling system

Finally, all participants were asked to provide feedback on day one of the workshop before departing the venue.

5.4.3 Workshop: Day Two

After a prayer, the workshop was apportioned into five action-planning sessions, followed by a review and then a forward-planning session. Before starting the day's programme, Wendy Beti from MECDM provided the audience with an overview of Day One and a summary of the discussions from the

workshop. At this stage, the audience was provided another opportunity to add comments on the previous day so that they could be recorded and provided to MECDM for their consideration.



Image 29: Wendy Beti (MECDM) providing an overview of the previous day; George Titiulu delivering a summary of waste management planning principles

Wendy Beti's presentation was followed by a quick summary of all the requirements of integrated waste management planning by Mr George Titiulu of HCC. Both presenters noted the importance including all aspects of waste management into a waste management action plan, including collection, disposal, recycling, financing and resourcing.

The participants were then split into four groups and asked to list the actions they would take to achieve their goals. The action planning was split into five further sessions, as presented in Table 7. At the end of each session, each group presented their actions to the room and consensus actions were noted for consideration in the action plan.



Image 30: Action-planning sessions and presentation of ideas to the group on the second day of the Malaita workshop

The summary of the five sessions is provided below.

Table 7: The summary of actions discussed on Day Two of the workshop

Topic and guidance	List of Actions
<p>VISION: Auki to be an icon for the people of Malaita – Clean, Green and Beautiful Malaita</p> <p>MISSION: Waste-free Auki</p> <p><i>Form a ‘Malaita Waste and Recycling Committee’ to oversee the implementation of the plan – as a result of this workshop</i></p> <p>ORDINANCES</p> <ul style="list-style-type: none"> • Ban plastics – alternatives to be Auki crafts • Litter 	
<p>Collection:</p> <ul style="list-style-type: none"> • Areas to be covered • Crews required • Vehicles required • Mechanics? Parts? • Destination (short-term and long-term) 	<ul style="list-style-type: none"> • Build a collection map for legal boundary of Auki – four (4) zones • Map includes pickup points for each zone • Cost model built for recovery of contractor costs • Contractor vehicle engaged including crew – undertake collections from Auki township for commercial premises • Contractor vehicle engaged including crew – undertake collections from Auki township for households • Contractor vehicle engaged including crew – undertake collections from Auki township for schools and other community buildings • One vehicle per zone • Public litter bins

	<ul style="list-style-type: none"> • Safety equipment for crew • Signage • Street cleaners • Fee collectors • Ongoing maintenance • Engage stakeholders for support • Auki town council – legal entity
Disposal <ul style="list-style-type: none"> • Disposal site • Crews • Cost • Vehicles • Location 	<ul style="list-style-type: none"> • Short term – Molou dump • Long-term – Kilusakwalo landfill • Papers signed for use of site • Site organised and fenced; planning approval; site plan including road access; leachate collection; etc. • Landfill manager appointed • Cost model built for site functioning • Vehicles required: Landcruiser, bulldozer, excavator • Number of staff required – gatekeeper, two daily crews, security, drivers
Education <ul style="list-style-type: none"> • Who will be involved in education? List all organisations under each heading • Staff – which departments? • Youth groups – name groups • Community – name groups • School – names • Church – names • Women’s groups – names of organisations • Disability sector – name of organisations <p>What role will these organisations play?</p> <p>How often will education/awareness take place?</p> <p>Who will be involved?</p>	See Appendix A

Following the action planning for the above, the delegates were asked to assign responsibility and cost to each of the actions above.

All groups undertook extensive cost calculations and discussed various financial mechanisms that could be used to pay for the services discussed above.

A summary of the actions and cost estimates, as well as the delegation of responsibility for each action was provided to MECDM. During lunch, all delegates were asked to nominate appropriate organisations and staff to be a part of the Waste and Recycling committee so that the actions from the workshop can be carried forward and developed further.

The final session discussed the next steps, with Wendy Beti providing a summary to participants. The summary outlined the following actions:

- a) MECDM will summarise all actions and circulate among all workshop participants to ensure all views are captured;
- b) MECDM and Malaita Province will facilitate the first meeting of the Malaita Waste and Recycling Committee in May 2019;
- c) MECDM and Malaita Province will facilitate a follow-up workshop through the budget already allocated to the National Waste Management Strategy to finalise the Malaita Waste Management Action Plan.

The participants were then asked to provide feedback for the final day of the workshop. The feedback from both days is summarised in the next section of the report. The Acting Premier of Malaita Province closed the workshop with the presentation of certificates to all participants.



Image 31: Participants of the two day workshop at Malaita with their certificates

5.5 Participant feedback

Workshop participants were invited to complete a feedback form at the completion of each day to assist APWC in assessing the success of the events. Participants were asked to provide feedback on the presenters, the presentations, the training and group sessions and identify any gaps or opportunities for improving the workshop for possible future training events. Overall, the feedback was positive, however participants highlighted that the length of the workshop could be extended in order to include enough time to cover all questions and queries across all agenda items.

5.5.1 Day One Feedback

Feedback was provided by 22 attendees on the conclusion of first day of the workshop. Overall, the feedback provided indicates that the attendees found the workshop presenters to be clear communicators and 81% (or 17) of attendees suggested that the presenters were able to sufficiently answer questions relating to the workshop material. Ten per cent (10% or 2 attendees) did not feel that the presenter was able to make the subject matter compelling (one 'sometimes agreeing' and the other 'not really' agreeing).

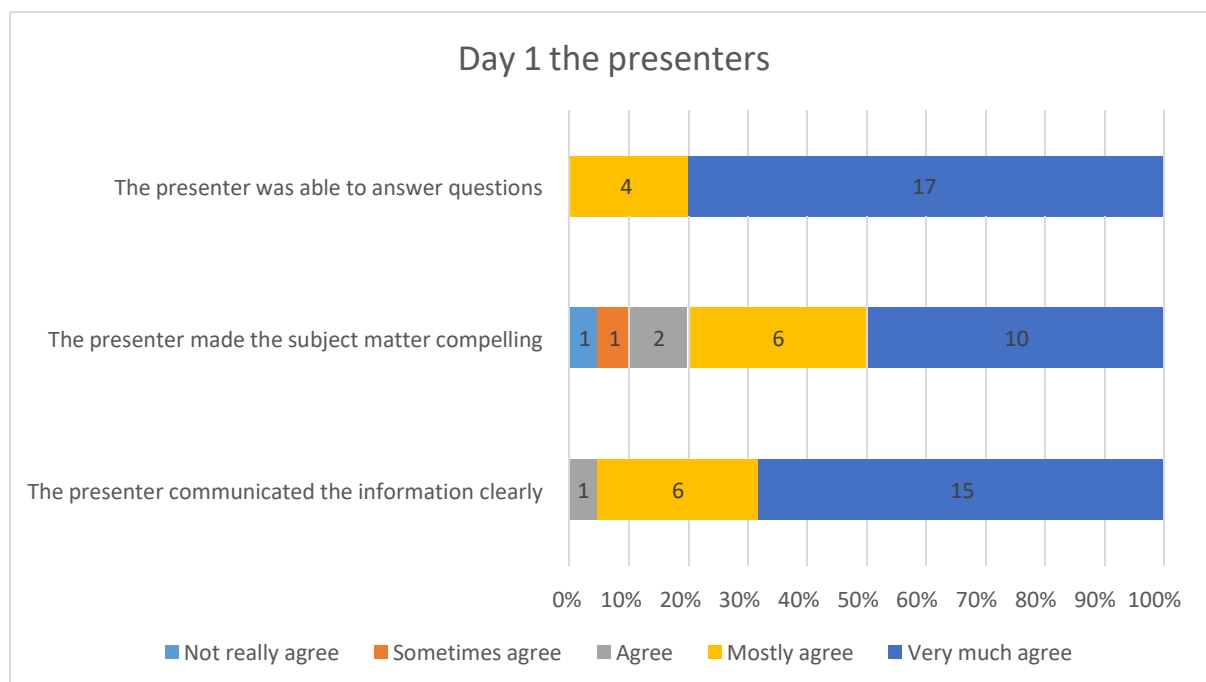


Figure 9: Day One – Attendee feedback in relation to workshop presenter(s)

Ninety per cent (90% or 19) of workshop attendees suggested that the session topics covered on Day One were relevant and interesting. Furthermore, 91% found the strategies learned will be transferable and will assist in tackling waste issues across Solomon Islands.

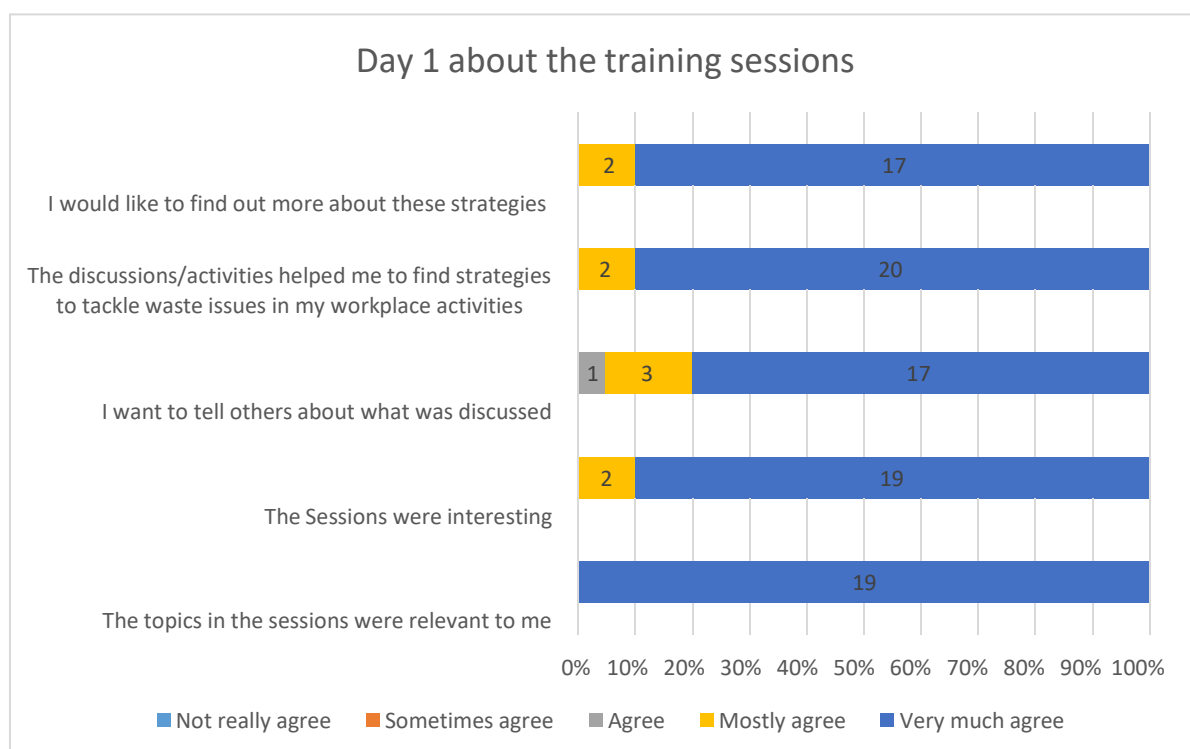


Figure 10: Day One – Attendee feedback on training session

Figure 11 highlights that overall, all attendees agree the workshop objectives were clearly stated, defined and met. In addition, all attendees felt they gained increased waste management knowledge and skills and learned how to work effectively with stakeholders in a workshop setting. However, 10% or 2 participants felt there was not adequate time for all questions to be addressed and satisfactorily answered.

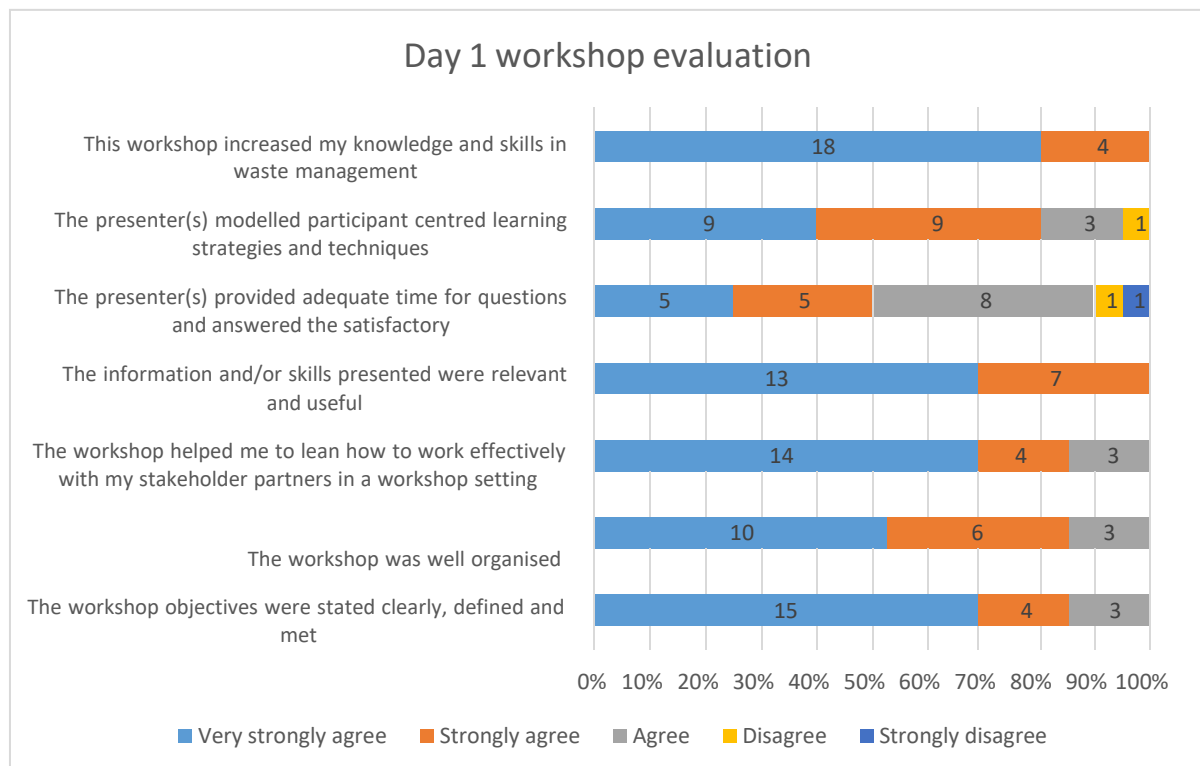


Figure 11: Overall participant experience workshop Day One

Seventy-nine per cent (79%) of attendees stated that the pace of the presentations was correct, however 21% noted the rate was too fast. This coincides with comments on both days that the length of the workshop should be increased.

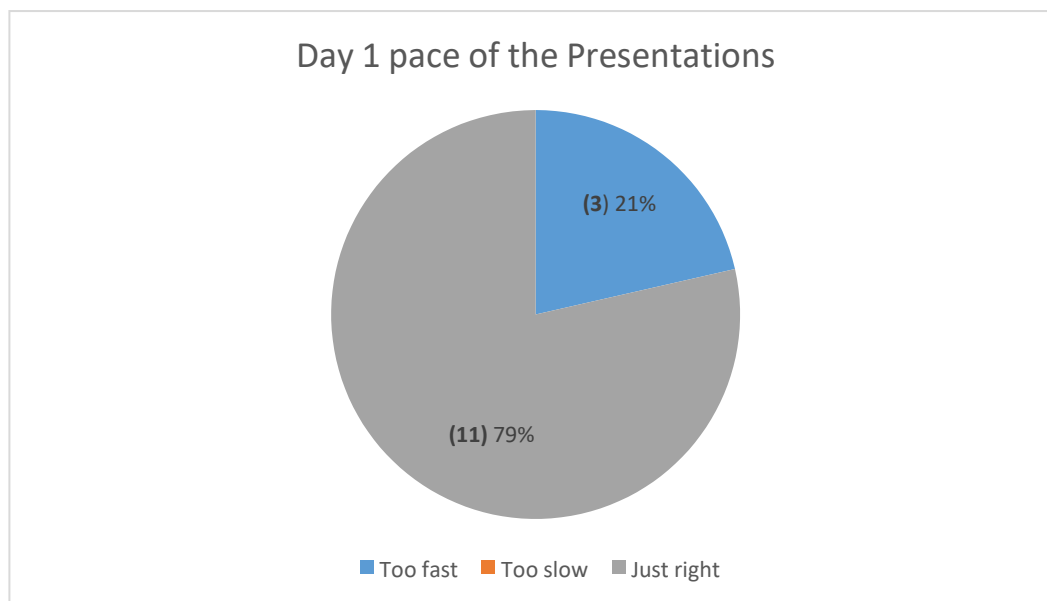


Figure 12: Workshop participants rate the pace of the presentation – day 1

Participants were asked to rate the demonstrations and group work sessions — feedback was both positive and negative. Sixty-eight per cent (68%) of attendees found the demonstrations to be average or above, while 27% suggested they were of poor quality. Seventy-five per cent (75%) agreed that the group work was above average quality, while 25% of attendees found the quality to be below expectations. It is worth bearing in mind that there may have been some confusion on the rating system, as the questions relating to the demonstrations and group work did not directly relate to the scoring system and was thereby left open to interpretation. Although on face value there seems to have been some less-than-satisfactory responses, the written responses from the participants who gave low scores are positive and full of praise for the event.

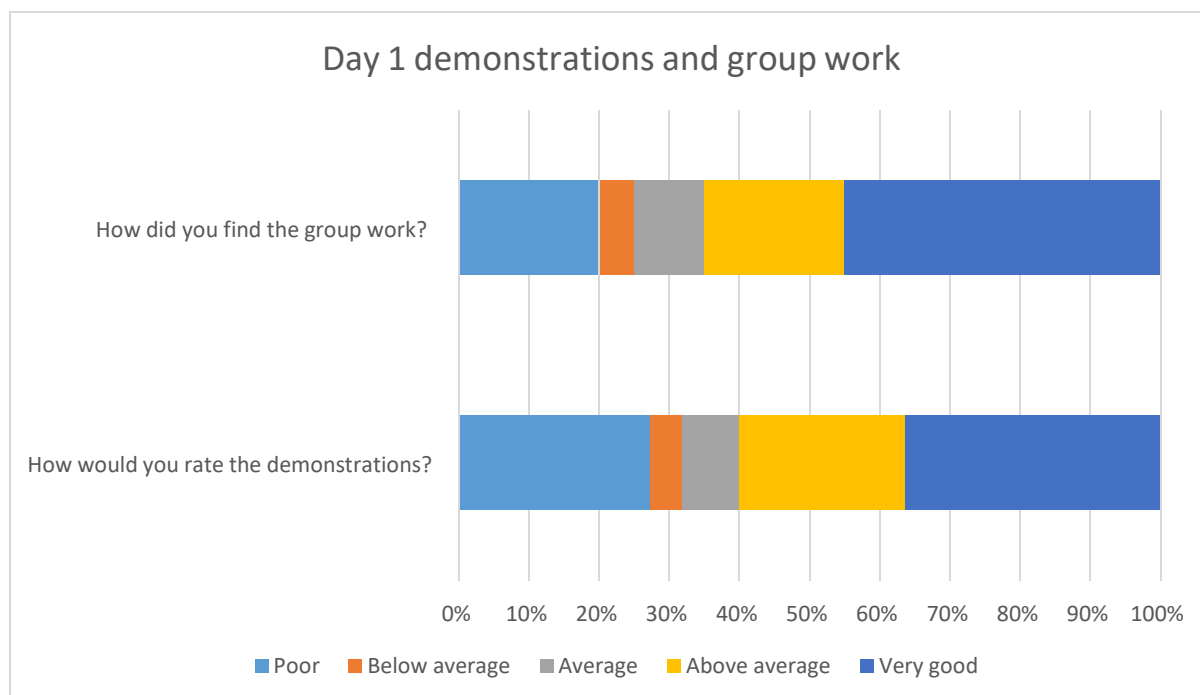


Figure 13: Day One – Participants rate the workshop demonstrations and group work session

5.5.2 Day Two Feedback

The feedback from participation on the second day was lower than on the first day, with a total of 20 participants responding and leaving feedback.

Feedback relating to the presenters and the presenting style was again positive, with 85% of attendees finding out that the information was communicated clearly, 63% or 12 attendees agreed the presenter was able to answer their questions and respond to queries. 11% or 2 attendees did not find the subject matter compelling compared to 47% or 9 that did.

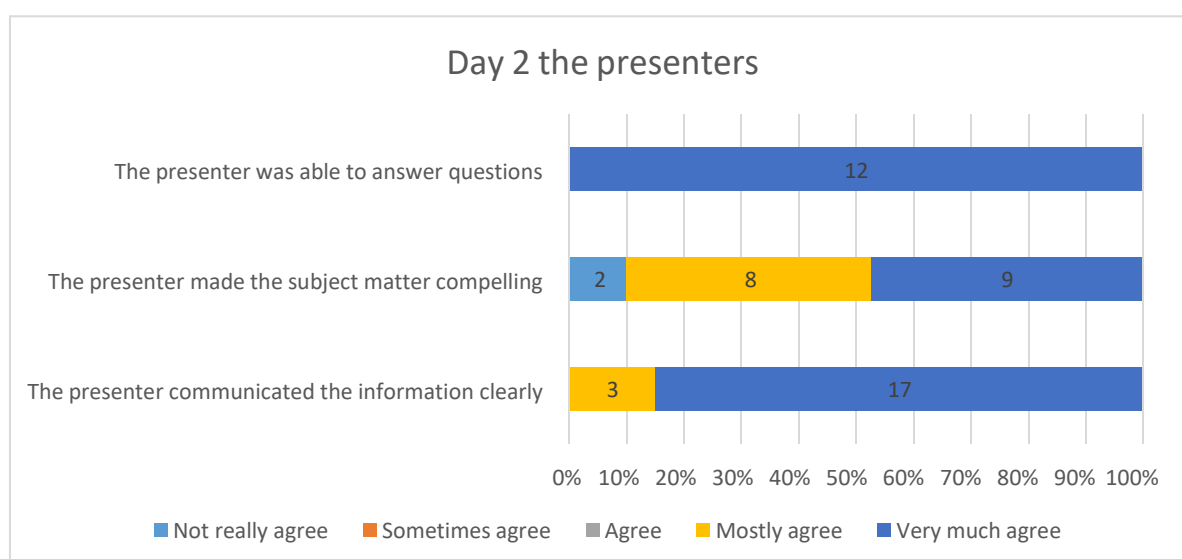


Figure 14: Attendee feedback in relation to workshop presenter(s) – day 1

As highlighted in the table below, the majority of participants found day two of the workshop relevant, interesting and that the strategies learnt would be transferable and assist working towards tackling waste issues within the participants individual work place activities. All participants highlighted they would like to find out more about the strategies delivered at the workshop. 68% of the respondents stated they very much wanted to tell others about what was discussed during the workshop, with one participant not as enthusiastic to share the workshop learnings.

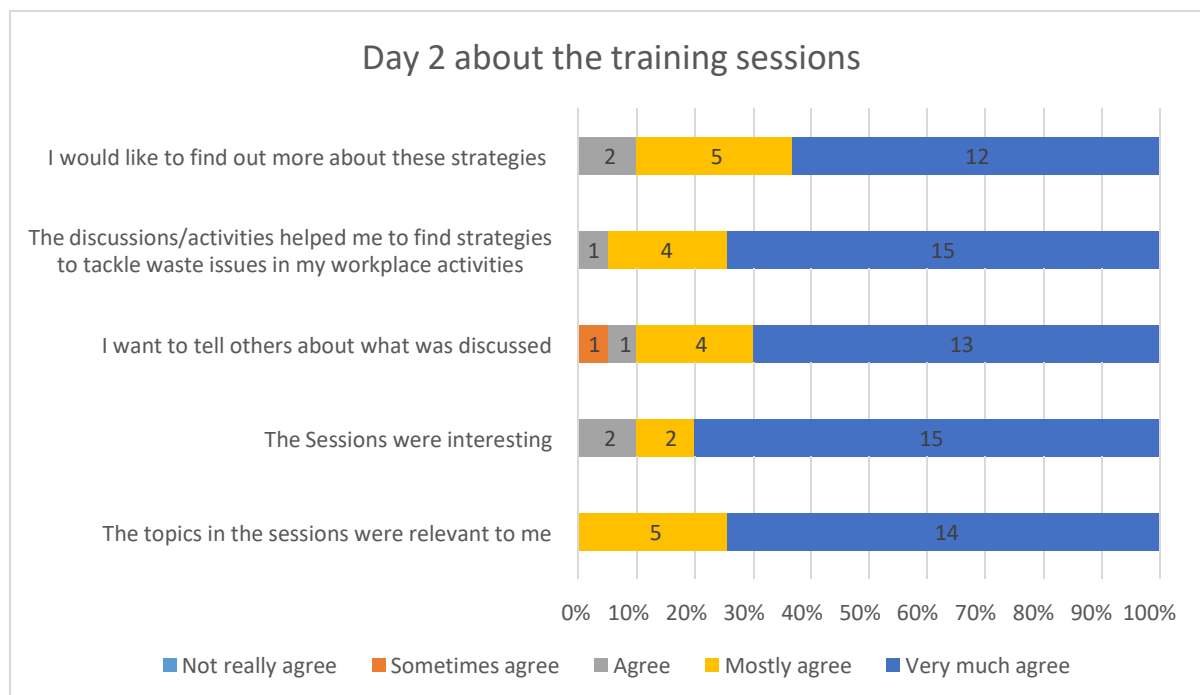


Figure 15: Day Two — About the training sessions

The figure highlights that 65% of participants agreed that the workshop objectives were clearly stated, defined and met, however 5% (one participant) strongly disagreed. Unfortunately, 15% or three participants felt that there was not adequate time for all questions to be addressed and satisfactorily answered. Sixty-eight per cent (68% or 13) respondents stated that they have gained increased knowledge and skills in waste management following the workshop.

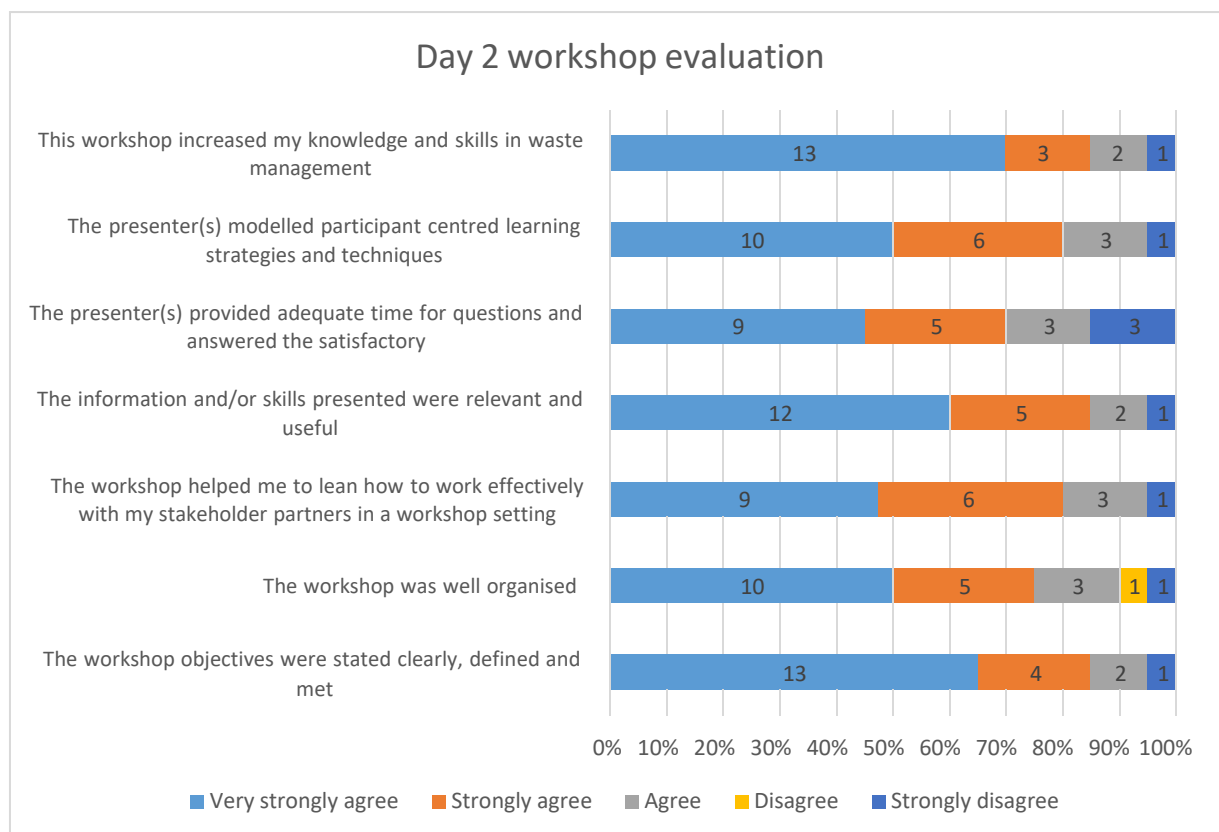


Figure 16: Day Two – Overall participant experience of workshop

The attendees were asked to comment on the pace of the presentations delivered. Fourteen of the attendees responded and rated the pace of the presentation provided to be just right. The remaining six attendees did not comment.

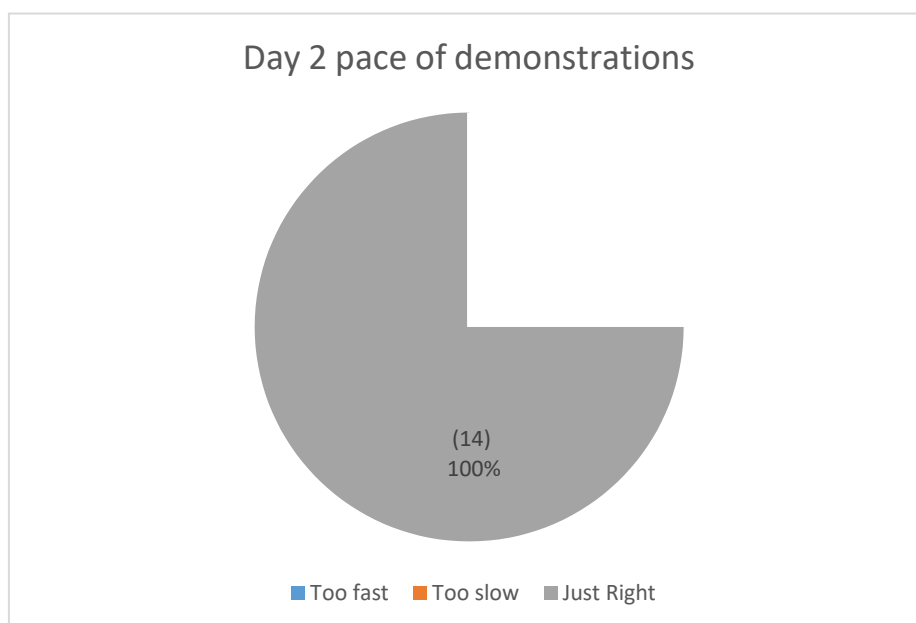


Figure 17: Day Two – Workshop participants rate the pace of the presentation

Participants were asked to rate the demonstrations and group work sessions, with both positive and negative feedback provided. The negative feedback offers an opportunity to identify how to improve future workshop for attendees to gain the most out of the session. Attendees stated that there was not enough time to complete the group work. As in the first day's results, it is worth bearing in mind there may have been some confusion on the rating system, as questions relating to the demonstrations and group work did not directly relate to the scoring system. Although on face value there seems to be some less-than-satisfactory responses, the written responses from the low-scoring participants are positive and full of praise for the event.

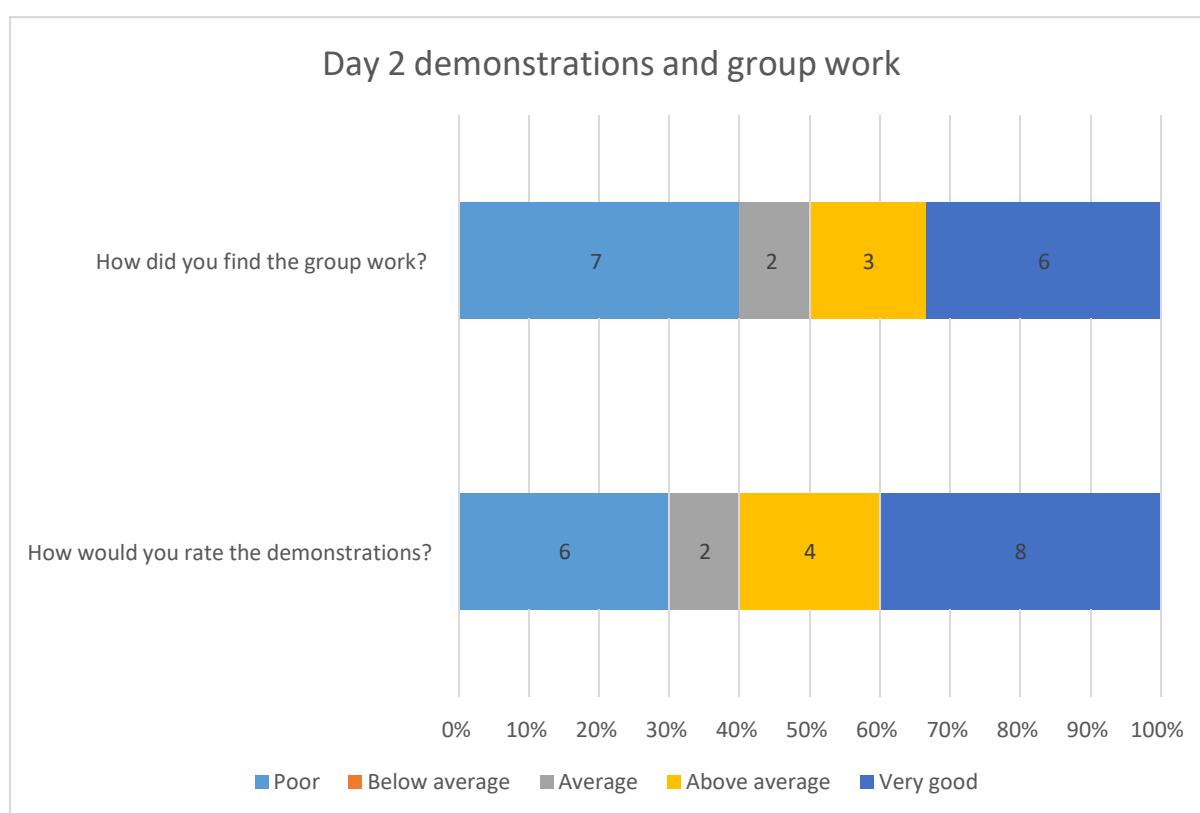


Figure 18: Day Two – Participants rate the workshop demonstrations and group work session

When asked what could be done to improve similar workshops in the future, the majority of participants stated more time would be beneficial — time for discussion, planning and practical sessions, and waste management training for communities. Some comments from the participants include: 'A very good workshop'; 'We need more information from your officers'; 'Looking forward to the implementation'.

A common response from participants across both days of the workshop was to increase the number of days the workshops could be held, with one participant suggesting adding another day and another

suggesting the workshop could be held over four or five days ('More time for practical sessions and discussion/planning').

Overall, the participants' feedback suggests attendees are now inspired and equipped with knowledge and tools to implement new and improved waste management strategies and projects within their workplace roles and communities.

The following points outline a number of the participants responses over the two-days workshop when asked what they liked the most and how they believe the sessions could be improved for future events.

What was the best aspect of the session?

- How to link the concept of waste and environment concerning specific waste within the waste stream that have already posed threats to various sectors of concern.
- The best aspect of the session is how we discuss, share, collaborate, brainstorm about how we could consider the cooperative plan of action for Auki Waste Management Plan.
- The best aspect of the session is everything learned today.
- Learning from HCC how they dispose rubbish.
- Discussions on issues and behaviour change activities on process flow of waste management.
- This aspect of this workshop session is on putting ideas on how we can manage our own waste
- The practical demonstrations of Plasticwise has demonstrated a triggering message to participate.
- The best part of the aspect was it assures me to take the waste management seriously to achieve clean environment where people enjoying healthy lifestyle especially to manage our waste everyday throughout town residence and our rural areas.
- The activities working in groups really make the whole workshop sessions really interesting and clear.
- The best aspects of this session was on how we participants contribute ideas on how we can formulate our own action plan for Malaita Province to inform waste management
- I would like to know more about how to educate people and change the behaviour of the other people in regards to control of waste is the town especially our beloved Auki.

What aspects of the sessions need improvement? What would you liked to hear more about?

- All aspects of the sessions are well presented. I would like to hear more on formal arrangements for waste collection and disposal that are often not in place and the illegal dumping of waste that continues to be major problem in Malaita and Solomon Islands. A combination of a growing community environmental education, strong enforcement and the provision of adequate waste management facilities and services must be required under the Waste Management Policy of the county.
- How to address waste management at a practical level.
- More discussion time on issues and practical behaviour activities.

- All of the aspects are well presented. I would like to learn more on adaptation in waste management.
- I need notes about the sessions so that I can file and refer to in the future, because this issue is very vital.
- Time scheduling of presentations needed additional time to cater for content of most presentations.

What could be done to improve similar workshops in future? (Please specify)

- I would suggest similar workshops in future to focus more on education and awareness in all regions of Malaita and Solomon Islands as a whole.
- Inform other relevant stakeholders.
- Increase number of days to spread content.
- Allow adequate time for discussion and reflection.
- More practical sessions.

Appendix A: Actions for education and awareness developed by workshop participants

Organisations involved	Actions to be taken
EHD	<ul style="list-style-type: none"> • Buffer, • resources, • guidance, • funding, • terms of reference, • ordinance, • technical support, • infrastructure, • training, • curriculum, • health@education and training, • local council@admin, • planning, • implementation, • police@enforcement, • lands@survey+info,
Local council	
Business community	
WDD	
MPCN	
HP	
MAL	
Sports department	
MPG	
Department of Health	
Department of Tourism	
Police	
Ministry of Fisheries	
Forestry	
MID	
YOUTH	
Youth@work	Volunteer programs, training, advocacy, skits and drama, public campaign
Church youth	
Loitering youths	
COMMUNITY	
Village council	Village by-laws, community beautification, modelling, clean-up, home composting
Village chief	
Church elders	
Women's Council	
World Vision	
Save the Children	
Red Cross	
NDMO	
Media	
SCHOOLS	
Technical Institute of Malaita	School beautification, art, special events
APS	
Alotaa	
ACHS	
Sinasu	
CHURCH	
SSEC	Community service, clean-up, information dissemination, development of programmes
ACOM	
Catholic	
SDA	
AOG	
WOMEN'S GROUPS	
Dorcus	Recycling, artistic endeavours, home composting, advocacy and training other women, creative projects
Auki Women Vendors Association	
MU	
Catholic Women's Group	

Women's band	
DISABILITY SECTOR	
CBR	Theatre groups

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