Solomon Islands Government

Ministry of Environment, Climate Change, Disaster Management and Meteorology

National Waste Management and Pollution Control Strategy

2017-2026

"Together for a Clean, Healthy and Green Happy Isles of Solomon Islands"

SPREP
Secretariat of the Pacific Regional Environment Programme

Supported by:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

based on a decision of the German Bundestag

JICA

SPREP Library Cataloguing-in-Publication Data

Solomon Islands : waste management and pollution control strategy 2017-2026. Apia, Samoa : SPREP, 2017.

106 p. 29 cm.

ISBN: 978-982-04-0731-2 (print)
978-982-04-732-9 (ecopy)

1. Waste minimization – Solomon Islands. 2. Source reduction (Waste management) – Solomon Islands. 3.Solid waste – Strategy – Solomon Islands. 4. Waste management – Policy and planning – Solomon Islands. I. Solomon Islands Government. II. Secretariat of the Pacific Regional Environment Programme (SPREP)

363.728 9593

PO Box 240, Apia, Samoa
+685 21929
sprep@sprep.org
www.sprep.org

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

Solomon Islands Government

Waste Management and Pollution Control Strategy 2017 - 2026

Acknowledgment

Formulation of a comprehensive Waste Management and Pollution Control Strategy would not be possible had it not been for the contributions and involvement of a broad range of stakeholders including provincial, national, regional and international stakeholders and partners. As the lead agency tasked with the formulation of this strategy, the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) sincerely acknowledges your support and efforts in successfully realising this outcome.

In particular, the Ministry wishes to thank the provincial environment health officers and provincial environment officers for their respective inputs by reflecting on the major waste and pollution issues of particular concern in the provincial centres and communities, throughout the country. Further credit goes to the other national stakeholders and the private sectors in ensuring that the strategy re-enforces the movement towards cleaner productions, and innovative solutions to addressing waste and pollution in the environment.

Special mention goes to the Telios consultancy team who have invested invaluable time in giving the strategy its final shape and ensuring that it reflects the views of all stakeholders and partners.

Finally special thanks also goes to the development partners and regional organizations such as the Japanese International Cooperation Agency (JICA) and the Secretariat of the Pacific Regional Environment Programme (SPREP) for their financial and technical contributions towards the process of formulation of this strategy.

Foreword

The Solomon Islands Government, having recognised the need for waste management and pollution control, developed its first *National Solid Waste Management Strategy and Action Plan 2009–2014* in 2008. This Strategy has been the country's roadmap for the improvement of solid waste management over the past five years and has been a catalyst for many initiatives to manage waste. It emphasised a broad recognition that waste is increasingly a development challenge. The timeframe for the implementation of this strategy has come to a close, and the time has come to review the progress of its implementation, reflect on the challenges and lessons learnt and determine what the next steps will be to build on the current progress.

The country's increasing population, heavy reliance on imported products and changes in consumption patterns stimulated by economic growth also pose significant challenges due to the diversification of waste streams. Other prevalent waste streams such as hazardous waste and chemicals, liquid wastes, health-care wastes and electronic wastes were not covered in the previous strategy but are becoming major concerns for the country. Management of these types of waste is crucial to ensuring the protection of the environment and people. Therefore, in moving forward, the Government had decided that the new strategy must encompass the management of these different waste streams.

The Waste Management and Pollution Control Strategy 2017–2026 focuses on managing waste and controlling pollution in the natural environment for the next ten years with the vision for clean, healthy and green happy isles.

The strategy was developed through an extensive consultative process with government ministries, provincial governments, private sector entities, non-governmental organisations, civil societies and donor partners. This Strategy addresses five main waste streams: Solid Waste, Liquid Waste, Hazardous and Chemical Waste, Health-care Waste and E-waste. The Strategy serves as a blueprint for waste management and pollution control that captures the national priorities and targets and identifies the relevant strategies to realise the priority targets in the next decade.
The Government of Solomon Islands would like to thank the Japan International Cooperation Agency (JICA) through the Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Islands Countries (J-PRISM Project) for the technical and financial assistance provided during the consultation process for the development of this strategy and to thank SPREP for technical assistance and funding support through the PEBACC Project towards the final editing and layout of this strategy.

It gives me great pleasure to present the Solomon Islands *National Waste Management and Pollution Control Strategy 2017–2026*.

I have the honor to present the Solomon Islands National Waste Management and Pollution Control Strategy 2017-2026 and the onus to implement the strategy is with you the people of Solomon Islands.

Hon. Dr. Culwick Togamana
Minister for Environment, Climate Change, Disaster Management and Meteorology

Executive Summary

The country is blessed with a rich environment with diverse marine and terrestrial biodiversity increasingly threatened by human-induced activities, including uncontrolled and poor waste management practices. The Environment Act 1998 provided the first legal platform for a broader environment and sustainable development approach, further strengthened by the establishment of the Environment and Conversation Division (ECD) as the lead government agency for environment management. However, the country is faced with challenges, including enforcement, capacity and financial constraints to name a few.

The formulation of this *National Waste Management and Pollution Control Strategy (NWMPCS) 2016–2024* is part of the ongoing efforts in the country to address the issue of waste and pollution as the country enters a period of rapid social and economic change. The national level initiatives to address waste since independence can be best described as mostly uncoordinated and piecemeal, with the basic responsibility resting on town councils and respective provincial stations and community.

This strategy is also aligned with the *Cleaner Pacific 2025: Pacific Regional Waste and Pollution Management Strategy 2016–2025* for a cleaner Pacific. The vision statement of this NWMPCS 2016–2024 embraces the need for cleaner, green, healthy and happy isles by empowering Solomon Islanders to effectively manage waste and pollution. The eleven objectives and overarching principals set the platform for a more focused and achievable strategy for Solomon Islands. The NWMPCS is in line with the Solomon Islands National Development Strategy (SINDS) and the Democratic Coalition for Change (DCCG) policy statement for ensuring protection and conservation of Solomon Islands resources, people and priorities, with emphasis on education, employment, health, happiness, sense of fulfilment and general well-being.

The formulation of the *National Solid Waste Strategy and Action Plan 2009–2014* represented a pivotal point in managing waste for Solomon Islands. The strategy formulated with the support of SPREP and funding from JICA provided impetus for the government to address solid waste upfront and a platform for donors to help the country address solid waste management. While limited to solid waste, the strategy has also resulted in a number of initiatives on waste being implemented in the country with valuable lessons being learned on further improving the management of waste and pollution.

This strategy was developed from a consultative workshop organised in November 2015. A major outcome of the workshop was the presentation by all provinces including Honiara on the major challenges and issues in trying to address waste and pollution from a very practical perspective. The major challenges include land availability for landfills, limited financial resources, limited human resources, poor coordination, limited awareness and poor collection systems.

All stakeholders such as government agencies, donor partners, private sectors, non-government organisations, provinces and communities will play an important role in managing waste and pollution control. Many of the waste and pollution issues will require a collaborative effort and significant investment of financial capital and broad based awareness campaign. The table on the next page summarises the key themes and outcomes for addressing waste and pollution issues in the country.

Themes	Outcomes
Major Focus Areas	
Creating the Enabling Environment	Robust policy and legislative frameworks in place supported by strong institutions with skilled and trained people to lead waste management and pollution control
An Integrated Approach to Waste Management and Pollution Control	All provinces have in place basic waste management and pollution control systems such as a designated landfill, a waste collection system and application of the fundamental 4Rs principles
Training and research	Innovative waste management initiatives and actions that are based on accurate data and research with monitoring systems led by qualified and skilled waste and pollution experts
Awareness, Communication and Education	An informed, aware and empowered population who support and participate in waste management and pollution control activities
Public Private Partnership	Public-private partnership initiatives are formally established and effectively tackling waste management and pollution control issues
Infrastructure, Equipment and Cleaner Technology	Appropriate waste and pollution management infrastructure is in place, with industries shifting towards cleaner technologies and regulatory agencies fully equipped to monitor waste and pollution
Stakeholder Engagement and Role of Women and Faith-based Organisations	Effective broad stakeholders' engagement and participation of women and the Church to address waste and pollution
Financial Instruments and Sustainability	Have in place predictable and long-term finance mechanisms that secure the continuity and expansion of waste management and pollution control activities
Emerging and Targeted Focus Areas	
Waste and Pollution in Aquatic and Marine Environment	Stringent measures in place and a highly visible coordinated campaign implemented to reduce waste and pollution in rivers, lagoons, lakes, waterways and the marine environment
Waste and Pollution Impact on Tourism	The country is able to offer competitive advantage in tourism opportunities based on a clean and pollution-free environment, nature and cultural tourism
Waste and Pollution in the Manufacturing, Extractive and Mining industries	Have in place effective specific waste and pollution guidelines for mining and large extractive industries that are monitored and enforced
Waste and Pollution on Isolated Islands and Communities	A system in place to manage waste and pollution on isolated islands and communities without compromising the environment and human wellbeing
Waste and Pollution Impact on Health	Hospitals and clinics resourced with feasible technologies to improve their capacity to manage healthcare wastes
Waste, Pollution and Climate Change	Have in place measures that reduce emissions from waste and pollution and ensure that mitigation and adaptation technologies adopted do not further contribute to waste and pollution
Waste and Pollution from Natural Disasters	Disaster response plans have in place functioning processes and procedures to address waste and pollution during and following natural disasters

Section eleven (11) provides an overview of the monitoring and implementation framework.

Managing waste and controlling pollution for Solomon Islands will require national effort that includes high-level political leadership, effective policy and legal frameworks, development of appropriate institutional capacity and changing attitudes starting at individual to community, provincial and national level. The approach needs to be done within the Solomon Islands context where interconnectivity between different ecosystems from the upland forests to the coastal environment, rivers, lagoons and ocean is a reality. This ecosystem connectivity is intricately linked to the livelihood of the majority of the country's population whose daily subsistence continues to be dependent on their natural environment and resources.

Acronyms

CBSI	Central Bank of Solomon Islands
CDL	Container Deposit Levy
DCCG	Democratic Coalition for Change Government
DO	Dissolved Oxygen
ECD	Environment and Conservation Division
EHD	Environmental Health Division
EIA	Environment Impact Assessment
EIS	Environment Impact Statement
FD	Forestry Department
GDP	Gross Domestic Product
GEF-PAS	Global Environment Facility-Pacific Alliance for Sustainability
GHG	Green House Gas
HCC	Honiara City Council
HCW	Health Care Waste
IMO	International Maritime Organisation
IPCC	Intergovernmental Panel on Climate Change
JICA	Japan International Cooperation Agency
JPRISM	Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste management in Pacific Islands Countries
LEAF	Learning and Ecological Activities Foundation for Children
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MHMS	Ministry of Health and Medical services
MID	Ministry of Infrastructure Development
MLHS	Ministry of Lands, Housing and Survey
MMD	Mines and Minerals Division
MoFR	Ministry of Forestry and Research
MPA	Marine Protected Area
NAPA	National Adaptation Programme of Action
NBSAP	National Biodiversity Strategy Action Plan
NCCP	National Climate Change Policy
NDMO	National Disaster Management Office
NDS	National Development Strategy 2011–2020
NEMS	National Environment Management Strategy
NSWMS	National Solid Waste Management Strategy National Solid Waste Management Strategy and Action Plan 2009 - 2014
NWMPCS	National Waste Management and Pollution Control Strategy 2017 - 2026
POPs	Persistent Organic Pollutants
PS	Permanent Secretary
RAMSI	Regional Assistance Mission to the Solomon Islands
SIG	Solomon Islands Government
SIMSA	Solomon Islands Maritime Safety Administration
SINBF	Solomon Islands National Bio-safety Framework
SIPA	Solomon Islands Ports Authority
SIVB	Solomon Islands Visitors Bureau
SIWA	Solomon Islands Water Authority
SPREP	Secretariat of the Pacific Regional Environment Programme
UNFCC	United Nation Framework Convention on Climate Change
WHO	World Health Organization
4R	Reduce, Re-use, Recycle, Return

Table of contents

Figures

Tables

1.Introduction

1.0 Introduction

The formulation of the *National Waste Management and Pollution Control Strategy (NWMPCS) 2017 –2026* is part of the ongoing efforts of Solomon Islands to address the issue of waste and pollution as the country enters a period of rapid social and economic change. The national level initiatives to address waste since independence can be best described as mostly uncoordinated and piecemeal, with the basic responsibility resting on town councils and respective provincial stations and individual local communities. The Environment Act 1998 provided the first legal platform for a broader environment and sustainable development approach, further strengthened by the establishment of the Environment and Conversation Division (ECD) as the lead government agency for environment management.

The Environment Act defines wastes as liquid, solid, gaseous or radioactive materials, whether toxic or not, which are discharged into the environment or prescribed by regulation to be waste. Pollution means the direct or indirect alteration of the environment (a) to its detriment or degradation or (b) to the detriment of any beneficial use, and includes pollution as prescribed by the environment regulations. Part IV provides a comprehensive process for control of pollution from prescribed premises. This section of the Act is the cornerstone for managing waste and pollution from development activities. There also exist a range of strategies, policies, legislations and ordinances discussed under this strategy which have implications for waste management and pollution control.

With the support of the Secretariat of the Pacific Regional Environment Programme (SPREP) and joint funding from Japanese International Cooperation Agency (JICA) and the Solomon Islands government, the national solid waste management strategy 2009–2014 was formulated. The scope of the strategy covered solid wastes generated from these sources: household, commercial, industrial, agricultural, demolition, construction and ships wastes.[1] It also reflects on the fact that solid waste issues were the most pressing and visible issue for that period, affecting other sectors of development such as health and tourism.[2] The strategy acknowledged that liquid, gaseous, chemical and hazardous wastes were not the focus of the strategy, and mitigation of their impacts should be addressed through other initiatives.[3]

The rapid and significant socio-economic and development changes since then necessitate a more comprehensive strategy. The growth of new industries such as mining, increased manufacturing, increased urbanisation, rapid urban development and acceleration of natural resources extraction from marine and forest resources have brought new challenges on the broader environment and specifically from waste and pollution. Urbanisation based on the 2009 census revealed an annual urban growth of 4.7 per cent that exceeds the national population growth of 2.3 per cent, and this has implications for waste and pollution.[4] There are other pressing challenges, such as the tailing dams at the Gold Ridge Mines on Guadalcanal which overshadowed the operation of the mine resulting in its closure in April 2014. This challenge resulted in the Solomon Island Government opting for a more comprehensive strategy on waste management and pollution control covering solid, liquid and chemical materials and addressing new and emerging issues such as climate change.

1 Solomon Island National Solid Waste Management Strategy 2009–2014
2 Ibid
3 ibid
4 Solomon Island National Census Report 2009

This strategy reinforces the regional goal, and the vision is of "a Cleaner Pacific environment" with the mission "to implement practical and sustainable solutions to the prevention and management of waste and pollution in the Pacific".[5] This strategy builds on the previous national solid waste management strategy (NSWMS) 2009–2014. It is important on the outset to reflect on the fact that many, if not all of the twelve key issues identified by the previous strategy remain relevant. An important one is the need for political will and support for investment for appropriate infrastructure, sustainable financing and innovative means for public–private partnerships in urban areas such as Honiara. This strategy continues to have these key issues as central themes throughout and seeks to provide a platform for broader comprehensive and measurable strategies to address waste and pollution.

One of the major challenges in implementing the previous strategy and one that continues to persist even in other sectors is the coordination of key stakeholders between government agencies and the allocation of resources to waste and pollution. All provinces throughout the country have waste and pollution work led by environmental health officers who have limited budgets and scope of their roles, focusing more on health issues related to waste. On a positive note, waste and pollution are mainstreamed as part of health issues; however, there are no accompanying technical, financial and human resources.

This strategy was formulated through a robust consultation process with a number of provincial visits and a four day workshop bringing all stakeholders to Honiara organised in November 2015. The workshop provided an opportunity for all provincial stakeholders to report on what is happening on their province on waste and pollution. Questionnaires were also distributed for all provinces to get the baseline data on the waste and pollution control issues. This strategy was formulated based on the information gathered and outputs from a number of consultative meetings with the key stakeholders at the national and provincial level.

This strategy's ten main sections are tailored to emphasise a country-driven and -owned approach. These sections include:

- Our islands, people and livelihood (Chapter 2);
- Major waste and pollution streams (Chapter 3);
- Institutional and legal frameworks and programmes (Chapter 4);
- Progress from the NSWMS and Action Plan 2009–2014 and pollution control initiatives (Chapter 5);
- Major challenges and issues on waste and pollution (Chapter 6);
- Rational for comprehensive waste and pollution strategy (Chapter 7);
- Towards a clean, healthy and green happy isles (Chapter 8);
- Major focus Areas (Chapter 9);
- Emerging and target focus areas (Chapter 10); and
- Monitoring and evaluation framework (Chapter 11).

5 SPREP, Pacific Regional Waste and Pollution Management Strategy 2016–2025, Apia, Samoa.

The principle of a Solomon Islands driven and owned strategy seeks to encourage broad nation-wide ownership of the actions to address waste and pollution issues. Thus, the scope of the strategy, whilst acknowledging urban centres as critical and as the public image of the country, regards the rest of the isolated communities, islands, atolls and lagoons as equally important, noting that the livelihoods of the people in all these communities are dependent on the natural environment threatened by wastes and pollution.

The first section (chapter 2) provides a broad level description of the geographical, environmental, governance and socio-economic context of the country followed by an analysis of the critical nature of waste and pollution control to sustainable livelihood and natural resource management. The second section (Chapter 3) provides a description of the key waste streams addressed by the strategy and why they are important now and into the future. The third section (Chapters 4, 5 and 6) focuses on current approaches to managing waste, in particular the progress on the implementation of the previous strategy, existing polices, strategies and legal frameworks on waste and pollution, and current programmes and projects. The fourth section (Chapters 8, 9 and 10) is the core of the strategy and further divided into three subsections with the first sub-section on vision, objectives and principles, the second on major focus areas and finally the emerging and targeted focus areas. This section provides the vision and the strategic actions to realise this vision, taking into account existing priority issues under the previous strategy, new issues and also emerging ones. The final section (chapter 11) is the monitoring framework which is the basis for the implementation of this strategy.

The broad level approach to waste and pollution control means that this strategy compared to the previous one does not formulate specific project level approaches such as specific targeted activities with proposed budget figures. However, it provides more broad level strategic actions which any stakeholder and partner can in turn use as a basis for project or programme formulation. The strategy at a certain strategic level especially with emerging issues has resorted to having what could have been activities as strategic actions due to the need for urgent action, to reinforce emphasis and increase the visibility of waste and pollution as an important issue.

2. Our Islands, People and Livelihood

2.0 Our islands, people and livelihood

2.1 Our islands in the ocean

The Solomon Islands is located in the southwest region of the tropical Pacific, comprising over 986 archipelagic small islands which are distributed within six major island groups (Choiseul, Isabel, Malaita, Makira, New Georgia and Guadalcanal) with a total land mass of about 28,896 square kilometres. The country is characterised by geographic isolation and has globally significant patterns of natural resources and biological diversity and endemism. The country was ranked at the highest category 'global outstanding" when it was included in a global rainforest Ecoregion 200 list in a global assessment[6]. It is uniquely renowned for high species (flora and fauna) biodiversity, is home to the world's largest skink and insect-eating bats, has the most geographical distribution of endemic species of birds and hosts some of the largest rats in the world.[7]

The country's marine biodiversity is also hugely diverse with the rapid marine assessment by The Nature Conservation (TNC) in 2005 alluding to a total of 485 coral species belonging to 76 genera plus an additional nine unidentified species, elevating Solomon Islands to the rank of the second highest in the diversity of corals in the world.[8] Solomon Islands is part of the Coral Triangle, a scientifically defined geographic area of high species richness spanning almost six million square kilometres of the Indo-Pacific[9]. This marine resource is a source of livelihood for the majority of the country living in the rural areas.

Figure 1: The happy isles (source: SIVB)

The majority of Solomon Islanders are 'indigenous people" with traditional tenure, knowledge and governance structure which are still prevalent in their livelihood.[10] Almost 87 per cent of the land in the Solomon Islands remains under some form of customary tenure and group or individual right of access to land through customary processes.[11] Customary law and practices are rights recognised in the laws and the *Solomon Islands Constitution* and remain one of the main components of ethnic and national identity.[12] The country is also hugely diverse, having approximately 95 languages with strong affiliation to cultural groupings.[13] Governance and politics is also usually based on cultural traits such as patronage and the 'big man' patrimonial system which is deeply rooted in tradition and culture.[14] This cultural orientation plays an important role in how communities respond to socio-economic development and the management of their environment and natural resources.

6 WWF, Global Forest Assessment, 2005
7 Solomon Islands Government, National Biodiversity Strategic Action Plan, Honiara, 2009
8 TNC Solomon Islands Office, Solomon Islands Marines Assessment Report, Honiara, 2004
9 Ibid
10 Hugh Govan, 'Community Conserved Areas: A review of status and needs in Melanesia and Polynesia' (ICCA, 2009) 8.
11 Penelope Schoeffel, 'Where are all the Farmers? Agriculture, Land Tenure and Development in the Pacific Islands' in Ron Crocombe and Malama Meleisea (ed), *Land Issues in the Pacific* (Macmillan Brown Centre for Pacific Studies 1994) 46.
12 John Hauirae, 'National Assessment of Environment, Natural Resources and Relevant Related Legislations in Solomon Islands' (South Pacific Regional Environment Program 2003).
13 above n 10
14 Ibid.

The 2010 State of the Environment Report[15] highlighted the major environment challenges that the country faces as follows:[16]

- deforestation through logging;
- degradation of coasts, seas and reefs;
- forest and soils degradation;
- biodiversity loss; and
- climate change.

All these challenges have waste and pollution in various forms as the likely cause of the environmental impacts. Other pollution drivers such as rapid population increase, increased economic development activities, the shift from subsistence to cash economy, rapid urbanisation, natural disasters and mining underscore the importance of addressing waste and pollution head on. Taking all these factors into account necessitates the formulation of this strategy at a broad level. Waste and pollution threaten islands, lagoons, rivers, atolls, reefs, the ocean and natural environments on which rural livelihood is dependent.

2.2 Our people, livelihood and economy

Governance

Solomon Islands is a constitutional monarchy and has a Westminster parliamentary system of government. The parliamentary system is based on single member constituencies' representatives who sit within the 50 member parliament for four year terms. The formation of government is usually through coalition of various political parties. Historically, these coalitions have limited stability, with votes of no confidence frequent along with changes in government leadership making it not uncommon for several changes of government to occur during a single parliamentary sitting of four years.

The country consists of nine provincial governments (provincial assemblies), established under the Provincial Government Act (PGA) (1997), and the Honiara City Council (HCC), established under the Honiara City Act (1999), which administers Honiara City as a separate entity from the Guadalcanal Province in which it is situated. The Provincial Governments play an important development role and are the leading agencies in managing waste and pollution at the provincial level. However, their capacity remains weak with limited staff, and each are hugely dependent on the central government.

At the community level, customary practices have also evolved to encompass new ideas, with Christian beliefs and values being integrated into and combined with cultural beliefs. In many communities, this has led to two strong local governance units linked to traditional authorities and local church structures with the latter also filling the gap left in local service delivery through provision of schools and health clinics. This underscores importance of the church (religious) institutions as main players in raising awareness and changing people's attitude towards waste and pollution.

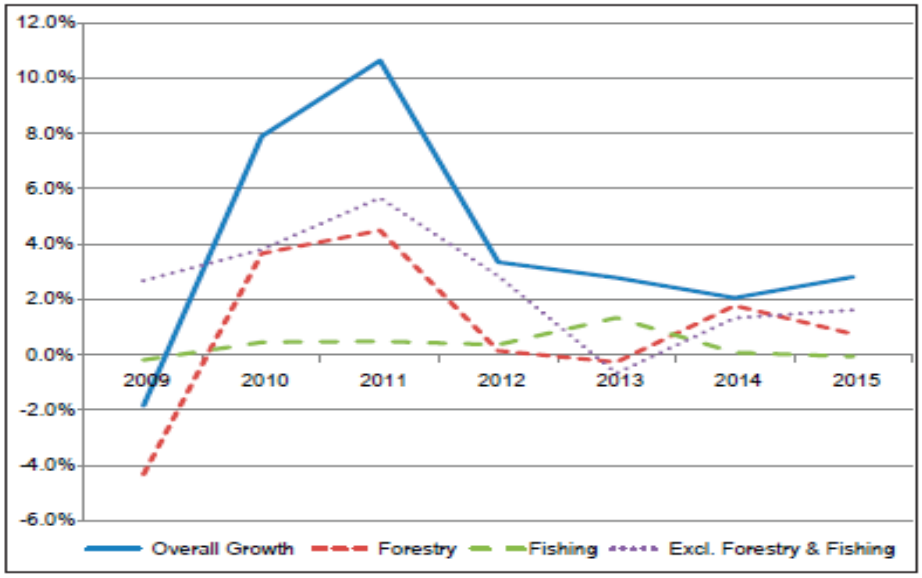
15 Pacific Horizon, State of Environment Report, Honiara, 2010
16 ibid

Socio-economic situation

In the previous year, the country had experienced resilience in 2014 in recovering from the negative fallouts from the 2014 flooding and the closure of Gold Ridge mine.[17] The growth for 2014 therefore was revised upward from 0.9% to 2.0%; however, there was a drop against pre-flood projection of 3.7% due to improvements in key non-mineral sectors and swift expenditure adjustments from the national government and the development partners. In addition, high export commodities and falling energy prices also supported the economic recovery process.[18]

The CBSI 2015 annual report estimated an overall real GDP growth of 2.9% in 2015 with the recovery buoyed by robust activity across most sectors during the year with the exception of mining, agriculture and fishing which saw contractions.[19] The growth trends experienced in the past few years are expected to continue in 2016, although at a slightly reduced pace. The economy is forecast to grow at 2.9% in 2016 from 2.9% in 2015.[20] The key sectors that are expected to drive this growth will be the fishing, construction, manufacturing, transportation and communication sectors.[21]

Figure 2: Sector growth 2015



Source: CBSI

The 2015 CBSI annual report stated that labour market conditions saw some improvement during the year.[22] Employment indicators from the Solomon Islands National Provident Fund (SINPF) showed the total annual average of active contributors increasing moderately by 4% to 55,438 contributors in 2015.[23] Data collected through the CBSI annual industry consultations showed that most private companies reported increases in their workforce in 2015, while approximately a quarter retained their staff numbers, and just over a third recorded declines.[24]

The economy has been described for some time as a dual economy due to the earnings emerging from natural resource extraction, which has allowed the development of a two-tiered economy.

17 CBSI, Annual report, Honiara 2014
18 ibid
19 CBSI, Annual Report, Honiara 2015
20 Ibid.
21 Ibid.
22 Ibid.
23 Ibid.
24 Ibid.

The first is the traditional and informal economy centred on subsistence agriculture, fishing and collection of forest products. This economy remains only partially cash based and is central to the lives of the majority of the population in rural areas. It is estimated that this economy could represent as much as 60% of the formal economy.[25] Its continuation is closely linked with access to land and resources as well as limited provision of state services and poor access to markets.

The second tier is a fully cash-based economy driven primarily by revenue from the extraction of resources, but supporting an emerging service industry. Services account for about 57.4% of GDP (approximately half being Government services), agriculture 33.4% (not including subsistence) and industry 9.3%.[26] Despite strong growth within this economy, it remains unable to provide sufficient employment to meet an ever-increasing demand linked to both an increasing population and an increasing desire to raise standards of living through purchase of consumer goods. It is estimated that in rural areas, on average, less than 10% of rural population has access to formal employment, while in Honiara, unemployment within 15 to 24 year olds is estimated at 80%.[27] The growing dependency of the rural community on the cash economy has significant implications for the growth of urban centres, with the capital Honiara experiencing an influx of migrants from all provinces.

The urban population of Solomon Islands in 2009 was 102,030, representing about 20 per cent of the national population.[28] With an annual urban growth rate of 4.7 per cent, it is projected that, by 2020, about 25 per cent of the country's population will be living in urban areas.[29] The rapid annual growth rate of the urban population has outpaced and continues to outstrip the institutional, administrative and financial capacity of the national Government, provincial authorities and service providers to cope with the demands.[30] The consequence for managing waste and pollution will be even more challenging, with Honiara already experiencing difficulties in collecting household wastes and managing pollution due to the urban migration of Solomon Islanders from the provinces looking for opportunity.

Table 1: Summary of Solomon Islands population by provinces. No. = number; pop. = population

Province	Population	Average no. of households	Average annual pop. growth 1999–2009 (%)	Pop. density (no. people / km^2)
Solomon Islands	515,870	5.5	2.3	17
Choiseul	26,372	5.5	2.8	7
Western	76,649	5.3	2.0	10
Isabel	26,158	4.9	2.5	6
Central	26,051	5.3	1.9	42
Rennell-Bellona	3,041	4.4	2.5	5
Guadalcanal	93,613	5.4	4.4	18
Malaita	137,596	5.6	1.2	33
Makira/Ulawa	40,419	5.5	2.6	13
Temotu	21,362	4.9	1.2	25
Honiara City	64,609	7.0	2.7	2,953

Source: national census 2009

25 CBSI 2014 Report
26 Ibid.
27 Ibid.
28 Solomon Island 2009 census report
29 ibid
30 Ibid

3. Major waste and pollution streams

3.0 Major waste and pollution streams

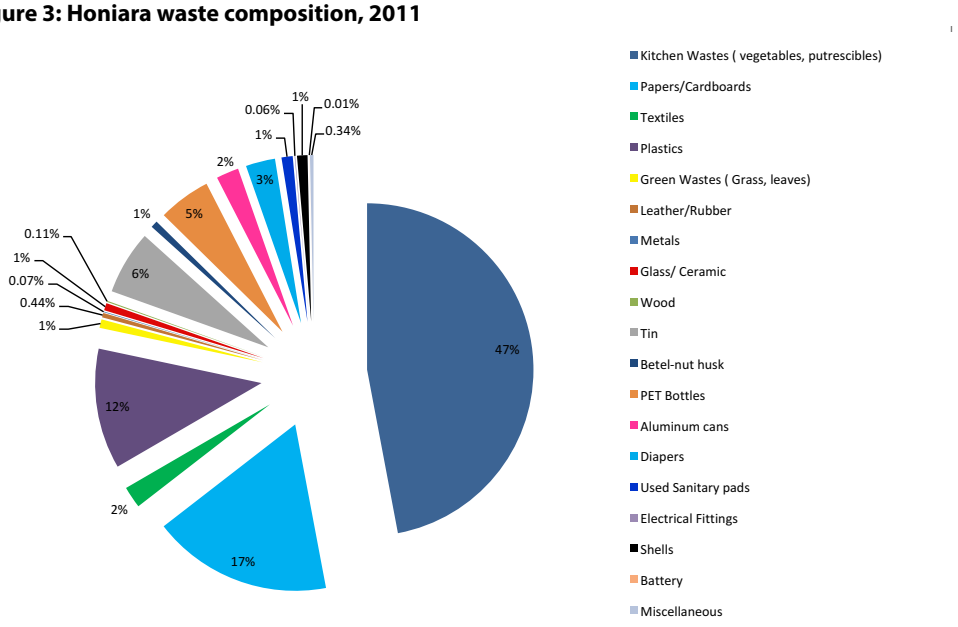
3.1 Solid wastes

Solid waste represents a majority of the waste produced in many parts of Solomon Islands. All forms of waste except for anything non-solid can be categorised as solid waste. Solid is generally understood as solid or semisolid, non-soluble material (including gases and liquids in containers) such as agricultural refuse, demolition waste, industrial waste, mining residues, municipal garbage and sewage sludge[31]. While there are more academic definitions, the simplest understanding would be any material discarded as waste, which is not liquid or gas, regardless of the size, is solid waste.

The waste characterisation study undertaken by Sinclair Knight Merz (SKM) in 1990 was the first to be undertaken for Honiara landfill and represents the baseline solid waste data for Honiara. The results at the time showed:[32]

- the proportion of plastics is high at over 16%;
- very few returnable bottles reach the landfill – the recycling scheme at that time was working;
- aluminium cans formed 0.5% of the waste—a high proportion of these are being collected before reaching the landfill;
- there is still 6.1% other metals reaching the landfill; and
- the proportion of biodegradable material is very high at 65%.

Figure 3: Honiara waste composition, 2011



The report showed a waste generation rate of 0.62 kilograms per person per day, and with the population of Honiara at that time as 48,000, the total amount of waste generated in one year in Honiara was over 10,862 tonnes.[33]

The study undertaken by Melchior Mataki as part of his PhD dissertation focused on the Honiara central market and household waste and showed a relatively different but significant result indicating a total waste generation rate of 0.87 kilograms per person per day in urban areas.[34]

31 www.businessdictionary.com/definition/solid-waste.html
32 Sinclair Knight Merz, Solid waste characterisation for Solomon Island (pg. 14), SPREP, 1990
33 Ibid.
34 Mataki (PhD dissertation), A critical assessment of the paradigms for solid waste management in Pacific island countries, Murdoch University, 2011

This would mean a total of 20,516 tonnes of compacted waste annually for a population of 64,600. Without giving due diligence to methodology and location of study, the total domestic waste produced since the 1990 report has increased by just over three times for Honiara in just over 20 years. Another waste characterisation study undertaken for Honiara in 2011 by the Honiara city council showed that the rate of waste generated by the household sector was 0.86 kilograms per person per day, generating as much as 20,277.94 tonnes.[35]

All these studies show that the largest component of the waste is organic waste. Thus, addressing waste and pollution will require a lot of work on waste minimisation activities.

3.2 Liquid waste

The *Environment Act 1998* describes waste as matter in the form of liquid, solid, gaseous or radioactive, whether toxic or not, which is discharged into the environment.[36] The act however does not define what liquid waste is, to be able to a draw line between other waste streams. Generally, liquid waste can be fluids of any form, dirty or clean, toxic or not, such as oil, grease, fats or sewage to name a few.[37] It is important that the proposed new regulations and review of the current environment act captures definitions of all key waste streams.

Data on liquid waste (e.g. sewage) are limited and remain difficult to monitor and control. Sewage being the common one is not treated throughout the country, although standalone septic tanks are mainly used in urban areas. There is provision for management of sewage systems under the Solomon Islands Water Authority Act. In addition to commercial establishments such as restaurants, hotels and light industries, productive and extractive operations, such as farming, food and oil palm processing and logging, also produce huge amounts of liquid wastes.

The most significant liquid wastes arising from extractive operations are in the form of the wastewaters of the tailings dam at Gold Ridge mine on Guadalcanal. Located just over two kilometres east of Honiara, the tailings dam poses a significant threat to communities living downstream. While there are efforts and investment to ensure that the tailings water is treated, increasing rain conditions at times result in the dam spillage without proper assessment or sampling.

Liquid waste is an issue for which the government will need to carry out research and develop appropriate guidelines and standards. It will also need to ensure that liquid wastes are properly treated and monitored. There is also a need to review institutional arrangements for liquid and sewage management. There are indications that Solomon Water, formally known as the Solomon Island Water Authority, are aware of this but do not have the technical and financial resources to lead and invest in sewerage and storm water treatment facilities.

3.3 Hazardous and chemical waste

Hazardous and chemical wastes can be generally referred to as materials either in their solid, liquid or gas states that exhibit a '*hazardous characteristic*', usually ignibility, corrositivity, reactivity and toxicity when made in reference to chemicals. A chemical waste is any waste generated from harmful chemicals, usually industrial, that may or may not be hazardous by definition depending on a prescribed Act or regulation.

In the Solomon Islands, aside from the EA 1998 definition of a waste as stated earlier, hazardous and chemical wastes or chemical hazardous wastes are not definite terms by any legislation.

35 Honiara city council(HCC), Honiara waste characterization study, Honiara, 2011
36 Solomon Islands Environment Act 1998
37 Ibid.

CBSI quarterly Reports 2014[38] and 2015[39] show that since 2010, the importation of chemicals has steadily risen, by as much as 120%, highlighting the need to take stock of hazardous and chemical waste streams and the importance of chemical lifecycle management to cater for the disposal aspect of hazardous chemicals. Solomon Islands currently has a fragmented legislative framework for chemical management between the MAL for agro-chemicals under the *Safety at Work Act 1982* (with reference to pesticides) and MHMS for pharmaceuticals and drugs under the *Pharmaceutical and Poisons Act 1978*, with no oversight for any of the other chemical categories, such as industrial chemicals. The agriculture sector is probably the biggest generator of chemical wastes both hazardous and non-hazardous mainly in the semi- and commercial subsistence sectors. This is owing to the over-reliance of rural and urban populations on semi-subsistence practices for consumption and income but also to large plantation operations such as the Guadalcanal Plains Palm Oil Limited (GPPOL). The minerals sector is also a large importer of chemicals, only recently reduced due to the closure of Gold Ridge in 2014; however, bulk stockpiles of acids and alkali containers from the previous operator remain on site awaiting proper disposal. Old school chemical stockpiles, industrial and manufacturing chemicals add to the hazardous and chemical waste category present in Solomon Islands.

The revised EA 1998 that started in 2015 does contain clauses for chemicals, persistent organic pollutants and waste management that allow for the development of hazardous and chemical material regulations with more definite descriptions of hazardous and chemical wastes and disposal measures. The scope should encompass hazardous and chemical storage, chemical compatibility guidelines including disposal material compatibility, handling and transport and disposal methods depending on the hazardous criteria of each chemical material.

3.4 Healthcare waste

Healthcare waste is defined as the total waste stream from a health-care facility, which would include non-hazardous or general waste and hazardous healthcare waste.[40] It includes the same types of waste originating from minor and scattered sources, including those produced in the course of health care undertaken in the home (e.g. home dialysis, self-administration of insulin or recuperative care).[41]

In 2008, the Ministry of Health developed a draft healthcare waste policy with the objective to ensure the management of healthcare waste, including waste equipment and waste storage areas, is achieved in a safe, hygienic and efficient manner.[42] No progress has been made since the draft policy, with each hospital and respective healthcare centres resorting to their own initiative to properly manage the healthcare wastes.

In 2014, the SPREP PacWaste project assessed healthcare waste for six hospitals from ward-level waste generation through to ultimate treatment and disposal. The assessment based on minimum standards framework has been developed to set a benchmark for the sustainable management of healthcare waste by using the industry code of practice for the management of biohazards waste (including clinical and related wastes) from the Waste Management Association of Australia (2014). Common key issues were observed in the Solomon Islands:[43]

- With the exception of Kilu'ufi Hospital, none of the hospitals were aware of Infection Control Policy – Guidelines for Health Facilities, Solomon Islands (2004).[44]

38 CBSI Quarterly Report September 2014
39 Ibid
40 WHO, Health care waste management in selected western Pacific countries, Manila, 2013
41 ibid
42 Ministry of Health and Medical Services, Health Care Waste Policy, Honiara, 2008
43 SPREP, Baseline Study for the Pacific Hazardous Waste Management Project - Healthcare Waste in Solomon Islands, April 2014
44 Ibid.

- Segregation and containment practices are generally below minimum standard in that there is virtually no signage present; the only segregation regularly practiced is for sharps; colour coded bags (liners) and bins were limited in supplies; and storage is not adequate.[45]
- There is no structured training or waste segregation auditing programme in place.[46]
- The method for treatment of healthcare waste is not in accord with required standards at any of the hospitals visited.[47]
- The wood-fired incinerators (Gizo, Kilu'ufi, Atoifi and Kirakira) do not reach the temperature required to adequately burn the healthcare waste.[48]

The study came up with a number of recommendations which have been included as part of the strategic actions for this strategy.

Figure 4: Damaged Incinerator, NRH 2015

3.5 E- wastes

The Pacific regional waste and pollution strategy defines E-waste as discarded electrical and electronic equipment that no longer serves its original purpose.[49] E-wastes contain a range of hazardous substances including heavy metals (e.g. mercury, cadmium or lead), flame retardants (pentabromophenol, polybrominated diphenyl ethers (PBDEs) or tetrabromobisphenol-A) and other substances, which may pose significant environmental and human health risks if released to soil, water and air through inappropriate practices such as burning and dumping.[50]

The PacWaste project has done a basic assessment of E-waste for Solomon Islands and a number of countries, but the summary report produced was insufficient for describing the issues surrounding the E-waste in the country in total.

45 Ibid.
46 Ibid.
47 Ibid.
48 Ibid.
49 SPREP, Pacific Regional Waste and Pollution Strategy, Apia 2016
50 ibid.

However, conventional knowledge within the country would point directly to issues relating to the solar batteries and panels, which have increased in abundance in the last ten years, and also office computers and IT equipment that have surpassed their life span. There is very limited E-waste quantity for the marketable value of E-waste from precious metals (e.g. gold, silver, platinum and palladium), scarce materials (e.g. indium and gallium), and other recyclable materials (e.g. aluminium, iron or copper). The issues of E-waste are increasingly important and require a detailed baseline assessment to fully understand its impact on both urban and rural environments in Solomon Islands.

4. Institutional and Legal Frameworks and Programmes

4.0 Institutional and legal frameworks and programmes

4.1 Institutional framework

The Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) has seen a rapid increase in its mandate since its formation as the Ministry of Environment, Conservation and Meteorology (MECM) in December 2007. This initial formation was a merger and upgrading of the Solomon Islands Meteorological Services and the ECD of the Ministry of Forestry. The Ministry has four divisions, each with their own respective directors: the Meteorology Division, the Climate Change Division, Disaster Management and the ECD.

The ECD is the key department for waste management and pollution control mandated under the Environment Act 1998 and regulations 2010.[51] The Division is understaffed as it has three legislations under its functions. Nevertheless, over the years, it has continued to lead national legislative and policy setting efforts to address waste and pollution in collaboration with other national and provincial level stakeholders. ECD has also ventured into participating in operational aspects of solid waste management, especially in Honiara. Addressing waste and pollution in the country will require developing the capacity of lead agencies such as MECDM, Honiara City Council, Provincial Governments and also Solomon Islands Maritime Safety Administration (SIMSA) which leads pollution in the marine environment. Other government agencies and state-owned enterprises such as Solomon Islands Water Authority (SIWA) have delegated responsibilities to manage certain types of waste or waste within their jurisdictions and so there is a need for collaboration and for them to proactively take up their mandated responsibilities.

Table 2: The following is a list of agencies that have specific mandates on waste and pollution in Solomon Islands.

Organisation	Mandate on Waste and pollution	Legal Provisions for waste and pollution	Ongoing efforts to address the waste and pollution issue
MECDM	All waste and pollution control issues	Environment Act 1998 part IV	Currently plays the leading coordination role
MHMS	Waste and pollution in relations health through the environmental health division	Environment Health Act 1990	Environmental Health Officers stationed in every provincial centre are currently the main coordinators and manager of waste and pollution control.
Provincial Governments	All waste and pollution in provincial centres	Provincial Government Act 1997 – Devolution of powers for the province to make ordinance on waste and pollution in the environment.	Lead agencies and providing funding for waste and pollution in their provinces, although much of it is restricted to Provincial centres

51 above n 33

SIWA	pollution control and prevention	SIWA Act 1992 Section 7 (e) to provide, construct, operate, manage and maintain buildings, works, systems and services for the conveyance, treatment and disposal of sewage, disposal of trade and industrial waste and other connected purposes.	Plans currently in place to build a sewage treatment facility for Honiara
Solomon Islands Ports Authority (SIPA)	Waste management and pollution in port jurisdiction	*SIPA Act section VI* makes provision for discharge of waste, etc. into and other pollution of port. It states that no person shall cause, suffer or permit any refuse, gas, petroleum oil, bilge water, ballast water or other offensive substance whatsoever its nature to be discharged, pumped or cast into or onto any waters or land within the limits of a port without the prior written permission of the SI Ports Authority.	Ongoing management of ports area by SIPA
SIMSA	Pollution in the Marine Environment	***Shipping Act 1998*-** The Shipping Act 1998 was purposed for protecting (ensuring safety and health) the shipping industry. **Shipping (Marine Pollution) Regulation 2011**- was amended into the Shipping Act, which has special emphasis on pollution of the marine environment.	The regulation implements the provisions of International Conventions (IC) in relation to marine pollution from shipping such as the IC for the Prevention of Pollution from Ships 1973 (MARPOL) and its Protocol 1978.
Ministry of Lands	Land related issue for waste and pollution	Land acquisition under the Lands and Titles Act 1996	NA
Ministry of Infrastructure	Infrastructure Development	Roads Act 1996	NA

The responsibility for managing waste and pollution at the provincial level rests with the provincial environment officers, many of whom are seconded from the Ministry of Health and Medical Services. These officers were empowered under the devolution orders of the provincial government act to give powers to the provinces to manage issues relating to waste and pollution.[52] While this has worked over the years, the increasing demand to address waste and pollution means that efforts have to be made to ensure that these staff are fully resourced with appropriate skills, infrastructure and also finance to undertake these tasks. MECDM as the lead agency on waste and pollution needs to see its broad national and provincial level responsibilities as prescribed under the Environment Act and match it with human, financial and technical resources.

4.2 International and regional framework on waste and pollution

Solomon Islands is party to a number of international conventions, agreements and protocols on waste and pollution. As a member of an international agreement, the country has obligations in terms of managing waste in its jurisdiction and also to ensure that cross-boundary pollution does not occur. Particular emphasis and capacity development will need to focus on pollution in the marine environment, and there is urgent need for SIMSA to be strengthened to lead this sector. All the agreements to which Solomon Island is a party are in Annex 1.

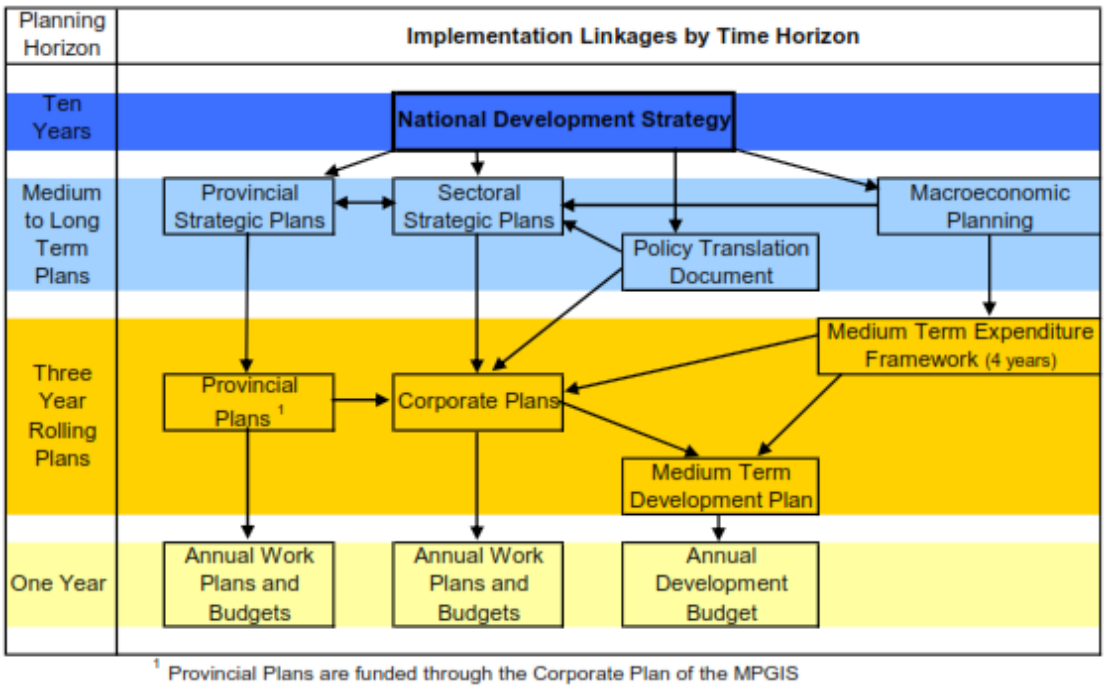
4.3 National policy framework

National Development Strategy (NDS)—The NDS 2011–2020 is a follow up to the mid-term development strategy (MTDS) 2008–2010. The latter was formulated on medium term priorities for the Solomon Islands. This NDS is focused on Solomon Islands as a united nation in its diversity, hence the National Vision ***'A United and Vibrant Solomon Islands'***.[53] The strategy embodies the aspirations and hopes of the people with the overarching theme ***'To build Better Lives for all Solomon Islanders'.***[54]

Objective 7 of the NDS stated the need for an effective response to climate change and management of the environment and risks of natural disasters.[55] It further articulated the importance of wastes and pollution noting that solid, hazardous and toxic wastes are a major threat to sustainable development. It also alluded to the fact that there is limited capacity for and awareness of waste management and inadequate **sanitation** systems to treat liquid wastes to avoid contaminating rivers, coastal waters and groundwater near urban areas and communities.[56]

52 *Solomon Islands Provincial Government Act 1997*
53 SIG, National Development Strategy, Honiara 2014
54 ibid.
55 ibid.
56 ibid.

Figure 5: National development strategy implementation linkages



Source: NDS 2011–2020

Democratic Coalition for Change Government (DCCG) Policy Statement—The DCCG policy objective under the environment and wildlife policy area is to improve waste management and disposal with the strategic action to promote waste minimisation in all aspects of development.[57] This is a significant policy statement in which the government of the day is very clear and precise concerning its intent to minimise waste in all development activities.[58]The policy document further highlighted two expected outcomes:[59]

- improved solid waste management regulations and practices; and
- alternative waste treatment systems tested and implemented in the country.

National Adaptation Programme of Action (NAPA)—The NAPA is formulated to address the growing adverse impacts of climate change in the Solomon Islands. It was prepared following a rapid vulnerability assessment which established baseline information for sectors that are most vulnerable to climate change. One of the key profile targets in NAPA is to address waste management issues through an integrated and sustainable approach. According to a NAPA report, information on waste management and climate change are lacking.[60] As a result, it is challenging to develop relevant adaptive strategies or action suitable for the Solomon Islands context. The NAPA identifies that climate change impacts will be felt critically on the systems on which humans depend, especially on agriculture and food security, water supply and sanitation, human settlements and human health.[61]

57 SIG, Democratic Coalition for Change Government (DCCG) Policy Statement, Honiara 2010
58 ibid
59 ibid.
60 SIG, National Adaptation Programs of Action, Honiara 2008
61 ibid.

National Biodiversity Strategic Action Plan (NBSAP)—The NBSAP was formulated to conserve and sustainably manage the biodiversity of Solomon Islands. The implementation of the strategy was led by the ECD within the MECDM. The NBSAP urges a holistic approach to consider mainstreaming of policies and legislation regarding ecosystem-community based approach to natural resources management, species conversation, protected area systems, management of invasive species and genetically modified organisms (GMO), research and monitoring, agro-biodiversity, climate change, waste management and alternative energy.

National Climate Change Policy (NCCP)—The National Climate Change Policy was developed in response to climate change impacts facing the country. The main focus of the climate change policy was on strengthening the adaptive capacity of the country through adaptation measures and taking appropriate mitigation actions to reduce global greenhouse gas emission.[62] The policy affects vulnerable sectors under the NAPA such as agriculture and food security, water supply and sanitation, human health, increase population, fisheries and marine resources, coastal protection, infrastructure, waste management and tourism.[63]

The Policy also alluded to the absence of a management strategy and system in place for GHG emission in the country and encourages landfill management to include the opportunities to generate electricity from methane as an alternative energy source.[64]

Solomon Islands National Plan of Action (CTI)—The Solomon Islands together with the six other Coral Triangle Initiative regional countries had committed to safeguard their marine and coastal biological resources. As part of this initiative, a National Coordinating Committee was formed along with a National Plan of Action to manage the marine and coastal resources ensuring sustainability of food, economic development, and biodiversity conservation while adapting to emerging threats through a community based approach supported by agencies, institutes and partners.[65]

Indirect discharge of waste and pollution into the ocean has to be prohibited, which can be achieved through wider consultation and awareness of the importance and ecosystem value of marine and the coastal resources.[66] According to this Plan of Action, Solomon Islands and the other regional neighbouring countries were under threat of marine and coastal biodiversity degradation at a rate faster than in the last centuries due to people using the marine and coastal environment for leisure, manufacturing and extraction.[67]

Solomon Islands National Biosafety Framework 2012—Solomon Islands ratified the Cartagena Protocol to Biosafety in 2004, recognising the need to protect its biological diversity from threats by Living Modified Organisms. One of the major objectives is to establish and maintain appropriate mechanisms and strategies to assess and manage risk to ensure the protection of plant, animal or human health, genetic resources and the environment.[68]

National Health Strategic Plan 2016–2020—Four key result areas in the plan are to improve the service coverage, build strong partnerships, improve quality services and lay the foundation for the future.[69] The plan identifies priority areas including making sure communities have access to safe water and basic sanitation and promoting hygiene.

National Water Resources and Sanitation Policy—The National Water and Sanitation Sector Policy (National WATSAN Policy) is the Government's response to national threats to development and public health and gives high priority to concerns in rural and urban communities throughout Solomon Islands (SI) about water and sanitation as identified in the nation-wide consultations for the National Development Strategy 2011–20 (NDS)[70]. The purpose of this policy is to:

62 Solomon Islands Government, National Climate Change Policy, Honiara 2010
63 ibid.
64 ibid.
65 Solomon Island Government, CTI National Action Plan, Honiara, 2012
66 ibid
67 ibid
68 Solomon Islands Government, National Biosafety Framework, Honiara, 2011
69 ibid.
70 Solomon Islands Government, National Water Resources and Sanitation Policy, Honiara, 2015

1. provide Government leadership in the nationally important water and sanitation sector;
2. improve development opportunities, health, and well-being for all Solomon Islanders;
3. protect sources of water and receiving environments;
4. respond to wide-spread rural and urban concerns about the safety, adequacy and reliability of water supply and sanitation services;
5. identify national priority areas and issues which require government intervention in the WATSAN sector;
6. respond to the WATSAN sector goals in the NDS;
7. give clear policy goals and objectives;
8. assign responsibilities for carrying out policy goals;
9. provide mechanisms for monitoring policy outcomes and reviewing policy; and
10. fulfil Solomon Islands' international and regional obligations in the sector.

4.4 National legislation

The Environment Act 1998—The Act emphasises environmental management and protection, even at the expense of development projects.[71] The Act tries to address this through the application of environmental impact assessment (EIA) in order to include environmental considerations as a component of any project.[72] There are provisions for industries to be answerable to regarding a sustainable friendly/healthy manner or approach from management, evaluation and control of products and wastes. Section 3 specifies the objectives of the Act ((a)-(d)) quoted below:

a) to provide for and establish integrated systems of development control, environmental impact assessment and pollution control;[73]

b) to prevent, control and monitor pollution;[74]

c) to reduce risks to human health and prevent the degradation of the environment by all practical means, including the following:

I. regulating the discharge of pollutants to the air, water or land;
II. regulating the transport, collection, treatment, storage and disposal of wastes; and
III. promoting recycling, re-use and recovery of materials in an economically viable manner; and

d) to comply with and give effect to regional and international conventions and obligations relating to the environment.[75]

The act by far is the most comprehensive legislation that seeks to address waste and pollution at the national level. It defines wastes as liquid, solid, gaseous or radioactive materials, whether toxic or not, which are discharged into the environment or prescribed by regulation to be waste. This definition forms the intent of this strategy to address waste and pollution.[76]

71 above n 32
72 ibid
73 ibid
74 ibid
75 ibid
76 ibid.

The Environmental Health Act 1990—This Act made provisions for securing and maintaining health infrastructures in compliance with sanitary, drainage and sewage specifications.[77] The act is administered by the Ministry of Health and Medical Services. It provides the backbone for formulation of national health policies, by laws and provincial ordinances. Generally, the act gave more focus on organisation powers vested on the Ministry than on substantive issues. The national health strategic plan 2011–2015 reiterated the importance of reviewing the act to ensure efficient health care service delivery as well as to address institutional powers and penalties.[78]

The Act's (Public Health Act) Regulation—This regulation addresses public health issues and how to deal with them when they occur. The regulations empower the Minister and the Under Secretary of the MHMS to take specific measures to prevent the occurrence of a public health disease or where such disease had already occurred, to take measures to contain and prevent the spread of the disease.[79] The Minister establishes 'local authorities" which are the Executive of the HCC and the Executive of the Provincial Assemblies, plus any others, which can include Area Councils.[80]

The Minister also establishes public health areas. Any such areas can be exempted from some or all of the provisions of the regulations. The duty of every local authority is "to take all lawful, necessary, and, under its special circumstances, reasonably practicable measures for preventing the occurrence or dealing with any outbreak or prevalence of any infectious, communicable or preventable disease, to safeguard and promote the public health and to exercise the powers and perform the duties in respect of the regulations."[81]

Shipping Act 1998—The Shipping Act 1998 was established for protecting (ensuring safety and health) the shipping industry. The Act gives effect to the International Maritime Organization (IMO) to manage risk, dangers and cleanliness in the marine environment.[82] Part IV mentions the responsibility to respect the safety of all equipment, off and on board the vessel including human beings which applies to safe disposal of wastes (pollutants) to the ocean that could cause danger or be hazardous to the marine environment and habitat.[83]

Shipping (Marine Pollution) Regulation 2011—This regulation was amended into the Shipping Act, which has special emphasis on pollution of the marine environment.[84] The regulation implements international conventions related to marine pollution and shipping such as MARPOL and the IMO standards for safety and security of shipping and prevention of marine pollution by ships.[85] Under this Regulation, no pollution and or harmful substances are to be discharged from vessels, platform or land into the Solomon Islands waters or from a Solomon Islands vessel into any waters.[86] If a person contravene with the provisions and standards, the person is liable/guilty to pay a fine or serve imprisonment.[87] The enforcement also includes meeting the immediate cost of restoration, rehabilitation and cleaning up within a set timeframe.[88]

77 The Environmental Health Act 1990
78 ibid.
79 Solomon Islands Public Health Regulation
80 ibid.
81 ibid.
82 Solomon Islands Shipping Act 1998
83 Ibid.
84 Solomon Islands Shipping (Marine Pollution) Regulation 2011
85 ibid.
86 ibid.
87 ibid.
88 ibid.

The regulation also prohibits the discharge of ballast water that contains non-indigenous aquatic organisms (invasive organisms) or microorganisms (pathogens) in the Solomon Islands waters.[89] If any substance harmful and hazardous to the human health or the marine environment is discharged by a vessel, the person in command of the vessel must report to the Principle Surveyor (an officer appointed under the Act).[90] This is also applicable to Marine Protected Areas (MPA) or Locally Management Marine Area (LMMA) (taboo areas) declared under the Protected Acts 2010.[91] The Director of Marine and the Permanent Secretary responsible for Disaster Management must be informed of any discharge.[92]

Ports Act 1990—Section VI of the Act makes provision for discharge of waste and other pollution of the port.[93] It states that no person shall cause, suffer or permit any refuse, gas, petroleum oil, bilge water, ballast water or other offensive substance whatsoever its nature to be discharged, pumped or cast into or onto any waters or land within the limits of a port without the prior written permission of the SI Ports Authority.[94]

Biosecurity Act 2013—The Act provides for preventing the introduction of disease into Solomon Islands through the importation or landing of animals, plants and other risk items; preventing the introduction of pests and undesirable plants; and requiring vessels and aircrafts to give notice of their arrival in Solomon Islands; and for connected purposes.[95] This Act grants regulation-making powers to the Minister in respect to the introduction or importation of plants, animals and substances or other material that may be the carrier of plant or animal pests and diseases.[96] The Act further provides for the appointment of inspectors and defines their powers and prescribed list offences.[97] An Order of the Minister may prohibit or regulate the importation or landing of: (a) animals and animal products; (b) plants; (c) earth; and (d) other things by, or by means of, which it appears to the Minister that any disease or pest might be introduced.[98] The First Schedule sets out the matters which may be dealt with by Order made under this Act.[99]

Safety at work Act 1982—The legislation codifies the duties of employers to their employees and others responsible for ensuring the safety of workers in various work environments, in particular the safety of workers in dangerous and risky conditions.[100] Part III of the legislation stipulates very specific duties relating to work environments that are dusty or have fumes, pressures and vacuum systems, machinery, electrical installations, fires and explosions, and other hazardous work environments.[101] Part IV provides for the regulation of these conditions and powers given to the commissioner of labour to regulate working conditions, investigate offences and prosecute where there is a breach.[102] Schedule I, II III and IV of the legislation provide for the duties of employers in terms of safety and outline the expected standards that should be adhered to.[103]

89 ibid.
90 ibid.
91 ibid.
92 ibid.
93 Solomon Islands Ports Act 1990
94 ibid.
95 Biosecurity Act 2013
96 ibid.
97 ibid
98 ibid
99 ibid
100 Solomon Islands Safety at work Act 1982
101 ibid.
102 ibid
103 ibid

The legislation has a number of subsidiary legislation focusing on very specific areas as follows:

- code of practice for timber scaffolding;[104]
- code of practice for flammable and combustible liquids;[105]
- safety at work first aid provision regulations;[106] and
- safety at work pesticide regulations.[107]

The pesticide regulations provide guidance on the use, sale and distribution of pesticides in the country.[108] It establishes the pesticide registration advisory committee to regulate use of pesticides in the country.[109]

The *Town and Country Planning Act 1980*—This Act provides for the regulation of planning at national and provincial level.[110] Although it has a national scope, the legislation can only be applied to urban areas. The Act empowered each province to have a town and country planning board.[111] Their responsibility is to prepare local planning schemes and control development of land within urban areas.[112] However, the definition of 'development" under the legislation excludes agricultural activities, fisheries and forestry.[113] The Board members are appointed by the Minister in accordance with the advice of the Provincial Executive. The board is responsible for making decision on certain developments according to local planning schemes for each provincial urban development. The board has no jurisdiction over customary land, which is a significant limitation.

The Mines and Minerals (Amendment) Act 2008—This Act provides the statutory framework for the mining sector. Section 2 stated that no mining operations shall take place except in accordance with its provisions. Several types of permits may be granted by the Minister responsible for mines and minerals: reconnaissance permits, prospecting licences, mining leases, alluvial mining, gold dealing and building materials permits.[114] The Act made provisions for formulating an EIS before mining development should occur; Part V 36 (ii) of the Act requires as condition for a mining lease adequate protection of the environment within and outside the mining area.[115] The recent experience with Gold Ridge mining should draw many lessons that will be considered in this strategy.

Fisheries Management Act 2015—The Act is formulated to ensure provisions for the conservation, management, development and sustainable use of fisheries and marine resources of Solomon Islands, to monitor and control fishing vessels within and beyond the fisheries waters and to repeal the Fisheries Act 1998 and to make consequential amendments to Provincial Government Act 1997 and the Town and Country Planning Act (Cap.154).[116]

The Act stipulates in Division 3 on Prohibited activities sub-section 23 that fisheries must be made by natural methods and not with harmful substance. This is applied to persons, vessels, fishing and related activities. In addition, in subsection 32 of the Division 23, pollution in the fisheries sector is prohibited especially by persons who use deleterious substances, including toxic and hazardous substances or those that may be harmful to fish and the aquatic environment, affecting the habitat and health of the fish.[117]

104 ibid
105 ibid
106 ibid
107 ibid
108 ibid
109 ibid
110 *Solomon Islands Town and Country Planning Act 1979*
111 ibid.
112 ibid.
113 ibid.
114 ibid.
115 ibid.
116 Solomon Islands Fisheries Management Act 2015
117 ibid.

Forest Resource and Timber Utilization Act 1969 —The timber rights agreement under this act is a legally binding contract made under Form 4 and has clear conditions attached it. These conditions include pollution prevention measures: all oil, fuel, chemicals and other pollutants shall be stored at a safe distance (in a buffered zone and away from any river or water course in secure conditions with safeguards against accidental contamination of water).[118] It clearly stated that no refuse, sewage, rubbish, oil, fuel or other pollutants may be discharged into any river, pond, and stream or water source by the Company or any of its employees or sub-contractors.[119]

Solomon Island Water Authority Act—This act clearly spells out the responsibility of SIWA now known as Solomon Water to manage waste discharge from sewage, trade and industrial wastes.[120] Solomon Water also has policy advice and formulation role in relation to pollution and wastes.[121]

Provincial Government Act 1997—The Provincial legislative authority derives from a combination of this Act and the accompanying devolution orders.[122] The Devolution Orders enable each province to make legislative power over a range of matters of direct relevance to natural resource management and environment.[123] Power for making ordinances over wildlife and marine resources is also devolved under the *Provincial Government Act 1997*.[124] *"Provincial legislative authority derives from a combination of the Provincial Government Act 1997 (PGA) and the accompanying devolution orders (PGAs33)."*[125]

The Provincial Government Act 1997 Schedule 3 provides a list of activities for which the provinces have responsibility and have the power to pass ordinances:

- Trade and Industry - Local licensing of professions, trades and businesses, local marketing;[126]
- **Cultural and Environment Matters** - Protection of wild creatures, coastal and lagoon shipping;[127]
- **Agriculture and Fishing** - Protection, improvement and maintenance of fresh-water and reef fisheries;[128]
- **Land and Land Use** - Codification and amendment of existing customary law about land. Registration of customary rights in respect of land including customary fishing rights;[129]
- **Local Matters -** Waste disposal'[130]
- **Rivers and Water -** Control and use of river waters, pollution of water;
- Corporate or Statutory Bodies - Establishment of corporate or statutory bodies for provincial services including economic activity.[131]

118 Solomon Islands Forestry and Timber Utilization Act 1979
119 ibid.
120 Solomon Islands Solomon Island Water Authority Act
121 ibid.
122 *Solomon Islands Provincial Government Act 1997.*
123 Ibid.
124 ibid.
125 Jan McDonald, 'Marine Resources Management and Conservation in Solomon Islands: Roles, Responsibilities and Opportunities' (Griffith University 2006)
126 Ibid.
127 ibid
128 Ibid.
129 ibid.
130 ibid
131 ibid

4.5 Provincial legislation

The Honiara (Refuse Disposal) By-law 1994—is concerned with the management of waste in Honiara and enforcing the management of waste within the city boundary.[132]

HCC Act 1999—The Act provides the legal framework for the establishment of the Honiara City Council (HCC) and town boundary on Guadalcanal under section 4 of the Honiara City 1999[133]. The function of the HCC council is still determined using other provisions provided for within the Local Government Act, which means that HCC is operated on ordinance to plan, manage and organise Honiara City.

Honiara Litter Ordinance 2004—The Litter Ordinance was formulated to keep Honiara clean: local business houses or individuals have to provide litter receptacles for waste collection, while the council distributes receptacles in the public areas.[134]

Building Ordinance—The Honiara City Council Building Ordinance was created to ensure all buildings built within the Honiara City have to be legally approved considering safe and healthy development for the health of Honiara City. This Ordinance also states the types of materials that are legally approved to use in building constructions.[135]

132 The Honiara (Refuse Disposal) By-law 1994 (Solomon Islands)
133 The Honiara city council Act 1999
134 Honiara Litter Ordinance 2004
135 Honiara Building Ordinance

5. Progress from the NSWMS and Action Plan 2009-2014 and Pollution Control Initiatives

5.0 Progress from the NSWMS and Action Plan 2009–2014 and pollution control initiatives

The National Solid Waste Management Strategy and Action Plan 2009–2014

The formulation of this strategy in 2008 represents a pivotal point in managing waste for Solomon Islands. The strategy formulated with the support of SPREP and funding from JICA provided an impetus for the government to address solid waste upfront and a platform for donors to help the country address solid waste management. The strategy, while limited to solid wastes, has resulted in a number of initiatives being implemented in the country with valuable lessons learned for further improving the management of waste and pollution. The major challenges in implementing the strategy include:

- accessing funding, including the process of accessing and the availability of funds;
- the need for a project coordinator and a regulator at the same time;
- limited human resources; and
- no proper planning and design at initial stage of programmes and project on waste.

The strategy however has resulted in waste being realised as key focus areas for environment management in the country. The following are some of the projects implemented as a result of the strategy.

Japanese Technical Cooperation Project for Promotion of Regional Initiatives in Solid Waste Management (JPRISM) in the Pacific Island Countries—J-PRISM is a Japanese technical programme to the Pacific island countries (including the Solomon Islands) to support solid waste management in the Pacific region. It is funded through the Japan International Cooperation Agency (JICA) (under bilateral assistance) as a five year programme from 2011 to 2015. In Solomon Islands, it is implemented through various government agencies, namely:

1. MECDM-ECD
2. Ministry of Health and Medical Services- Environmental Health Division;
3. Ministry of Culture and Tourism-Culture and Tourism Division;
4. Honiara City Council – Environmental Health and Works Division; and
5. Western Provincial Government – Gizo Town Council and Environmental Health Division.

The project has three objectives:

1. 3R activities are practiced in Honiara and Gizo;
2. the waste disposal system is improved in Honiara and Gizo; and
3. lessons and experiences learnt are disseminated in the Solomon Islands.

The major achievements of this project include:

Ranadi Landfill Rehabilitation

JICA through the JPRISM project had been working on the improvement of the Ranadi Landfill in Honiara. The project is implemented in partnership with the Ministry of Environment, Climate Change, Disaster Management and Meteorology, Ministry of Health and Medical Services and the Honiara City Council. In the past, the Ranadi landfill was an 'open dump" site, in a state of uncontrolled leachate, large populations of flies, bad odour, poor road access and no site management.

Figure 6: Development of the Fukuoka system at Ranadi

Through the project, the Fukuoka method of solid waste management was identified as the best method for the landfill. In 2014, a team of HCC staff were given the opportunity to visit Japan through the programme for solid waste management to undergo training in the Fukuoka method. Unlike an anaerobic system (open dump), the Fukuoka method is a semi-aerobic system which promotes both anaerobic and aerobic decomposition, designed to be like the body system of humans which favours aerobic and anaerobic microorganisms decomposing materials perfectly.

Eco-Bag Campaign Project

This project implemented under the MECDM was established in response to the growing impacts of plastic bags on the aquatic and marine environments. Studies have shown plastic bags make up 12% of wastes that will end up at the Ranadi landfill or 10% of wastes washed into the ocean.

The main objectives of this project are to raise awareness of the impacts of plastic bags on the environment, minimise the use of plastic shopping bags and promote the use of eco-friendly bags as an alternative to plastic shopping bags.

The major components of this project include education and awareness, eco-bag design and product, implementation and monitoring and evaluation.

Figure 7: Eco bag

Eco-School Program

The goal of the project is to focus on waste minimisation and develop the capacity of school teachers to promote and raise environmental awareness for school children for waste minimisation, particularly the 3Rs concept. The project is piloted in three private schools and seven HCC schools. The challenges include a lack of consistent support from school teachers and principals, the sense of township, additional workload for teachers, limited financial support from school administrations and human resource constraints to provide consistent project monitoring and evaluation by HCC.

Figure 8: Eco-School Nature Games

Panatina Valley Community Solid Waste Management (SWM)

The project was established in 2013 as a pilot project for the Panatina Valley community after J-PRISM counterparts attended trainings under the JICA programme. The pilot project was developed to focus on improving waste separation, storage and a collection schedule for non-organic waste in the community.

The goal is to educate communities to understand segregation systems and collection schedules. The main challenges faced in this project are attitudes towards participation, compost monitoring, stray dogs and invasive terrestrial organisms (e.g. African Snail) and

collaboration of community members. Despite the challenges, there were positive outcomes resulting in a clean and healthy Panatina Valley Community.

The Project for Establishing a Separate Collection System of Household Waste in Cooperation with Public and Private Sectors Based on New 3Rs (Reduce, Reuse, Recycle and Return) Concept (LEAF Project)

Under the implementation by the HCC, a Japanese non-profit organisation, Learning and Ecological Activities Foundation for Children (LEAF) has formulated a project in cordial partnership with JICA, for piloting household solid waste management in Honiara for a period of three years (April 2014–March 2017). The activities of this project are to support the basic 3R concept through J-PRISM by introducing the 3R+ principle with returning the waste to its merchandise place.

The concept is the Public-Private Partnership in which the state and the private sector (in this case, there is a committee called the Honiara Public-Private Cooperation Committee) establish a business arrangement (partnership) cooperatively and operate. The project targets the establishment of a 'separate collection system of household waste' on a new 3Rs basis and also the reduction of garbage and the effective practical use of resources.

Figure 9: Plastic bottle return system, LEAF Project

PacWaste—PacWaste is an EU-funded project (under its 10th European Union Fund [EDF 10]) administered through SPREP which focusses on improving the management of priority high-risk wastes in the Pacific island countries to help build an economically healthy and environmentally sustainable Pacific for future generations. The project focus areas were on three priority hazardous waste streams including asbestos, E-waste and healthcare waste.

In implementing this project nationally, a baseline study was conducted in Solomon Islands, namely at Honiara National Referral Hospital (NRH), Honiara, Gizo Hospital, Helena Goldie Hospital at Munda, Kilu'ufi Hospital at Auki, Atoifi Adventist Hospital at Atoifi and Kirakira Hospital at Makira provincial centre focusing only on healthcare waste although there is raising issues on E-waste and asbestos.

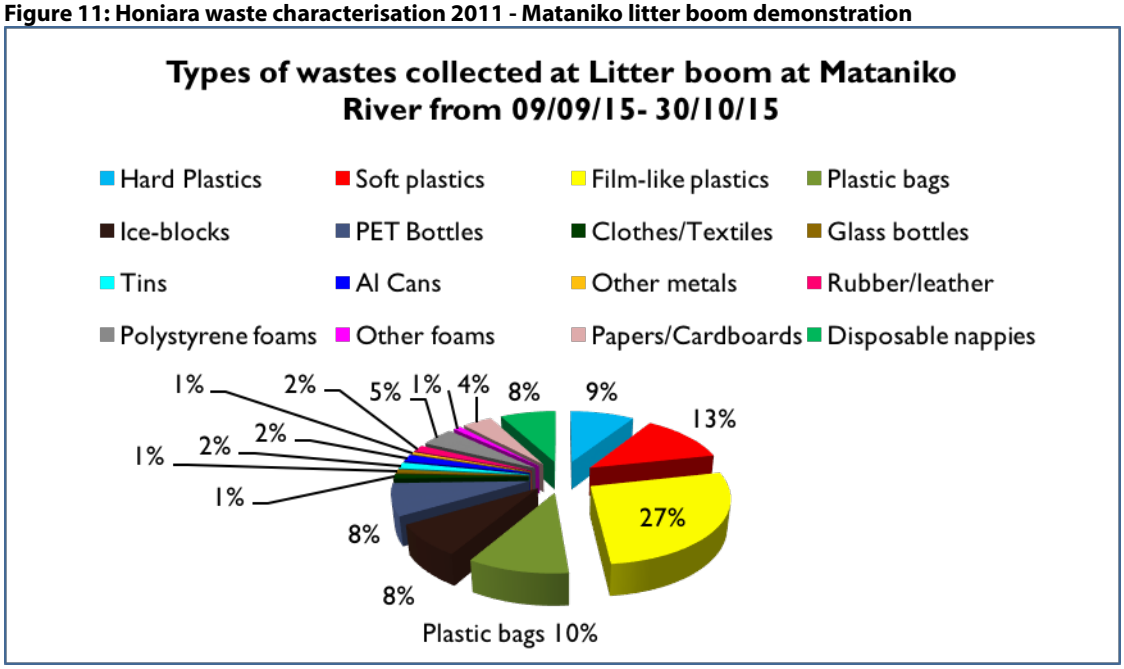
GEF-PAS POPs Project—Persistent organic pollutants (POPs) are toxic chemicals that can travel long distances through air and water. These toxins can accumulate in fatty tissues of humans and animals and potentially cause serious health issues, including cancer, birth defects and immune system impairments. The primary sources of POPs are chemicals used for pest and disease control, crop production and industrial processes. Unnoticed during rainfall or burning of waste materials, these products can be harmful to human health and the environment. The project to manage these POPs chemicals was funded by the Global Environment Facility-Pacific Alliance for Sustainability (GEF-PAS), aiming to reduce POPs in the Pacific region through systematic management at all levels.

Mataniko river cleanup and rehabilitation project—This project emerged as a result of continuous dumping of waste into the Mataniko river system, which has contributed to major pollution in the river and extending to the coastal sea front of Honiara city. This has resulted in negative environment, social and economic impacts on Honiara city. The source of this problem is directly related to uncontrolled waste disposal by the communities and poor garbage collection by the relevant authority due to poor road condition or lack of road access to certain communities within the catchment of the river. The objective of the project is part of the MECDM corporate plan objective, which is a clean, healthy and unique environment for safe, sustainable and resilient Solomon Islands communities. The project location will be focused mainly within the catchment of the Mataniko River (Honiara and Guadalcanal Province). The project will be ongoing until 2020 to meet the goal of the Ministry: by 2020, Solomon Islands should be able to achieve a clean and healthy environment with a safe and improved economic development. See Figure 10 for a map of the project location.

Figure 10: Honiara town boundary

Mataniko Litter Boom Demonstration—The Mataniko litter boom demonstration project was a joint initiative between SPREP and MECDM to collect baseline data on the amount of waste flowing down the Mataniko River. The project was also part of the Mataniko river clean-up and rehabilitation project and provides a baseline from data collected using the boom (Figure 11). It is expected that such an initiative will be extended to major rivers and streams for Honiara city after increasing the awareness and education of the communities.

Figure 11: Honiara waste characterisation 2011 - Mataniko litter boom demonstration



6. Major challenges and issues on waste and pollution

6.0 Major challenges for waste and pollution management

The consultative workshop organised in November 2015 brought together Honiara stakeholders and provincial stakeholder representatives dealing with waste and pollution. A major outcome of the workshop was the presentation by all provinces including Honiara on the major challenges and issues in trying to address waste and pollution in their respective provinces. These challenges and issues were then categorised from the most common in all provinces to the least common (Table 3).

Table 3: Summary of challenges and issues

Major challenges and issues	Number of provinces
Lack of available land for a proper landfill	8 Provinces
Limited financial resources	6 Provinces
Limited human resources	5 Provinces
Poor coordination	5 Provinces
Limited awareness	4 Provinces
Poor collection system	4 Provinces
Lack of relevant regulations or ordinance	3 Provinces
Logistical issues	3 Provinces
Lack of technical capacity for management of other waste and pollution issues from logging, e.g. oil spills	3 provinces
Lack of appropriate basic infrastructure e.g. Incinerator for healthcare waste, waste bins	2 provinces
Negative attitude towards wastes	2 provinces
Political will	2 provinces
Non-enforcement	2 provinces
Illegal squatters and settlers in landfill	1 province
Illegal dumping	1 province
Population growth and urbanisation	1 province
Customary land issues	1 province

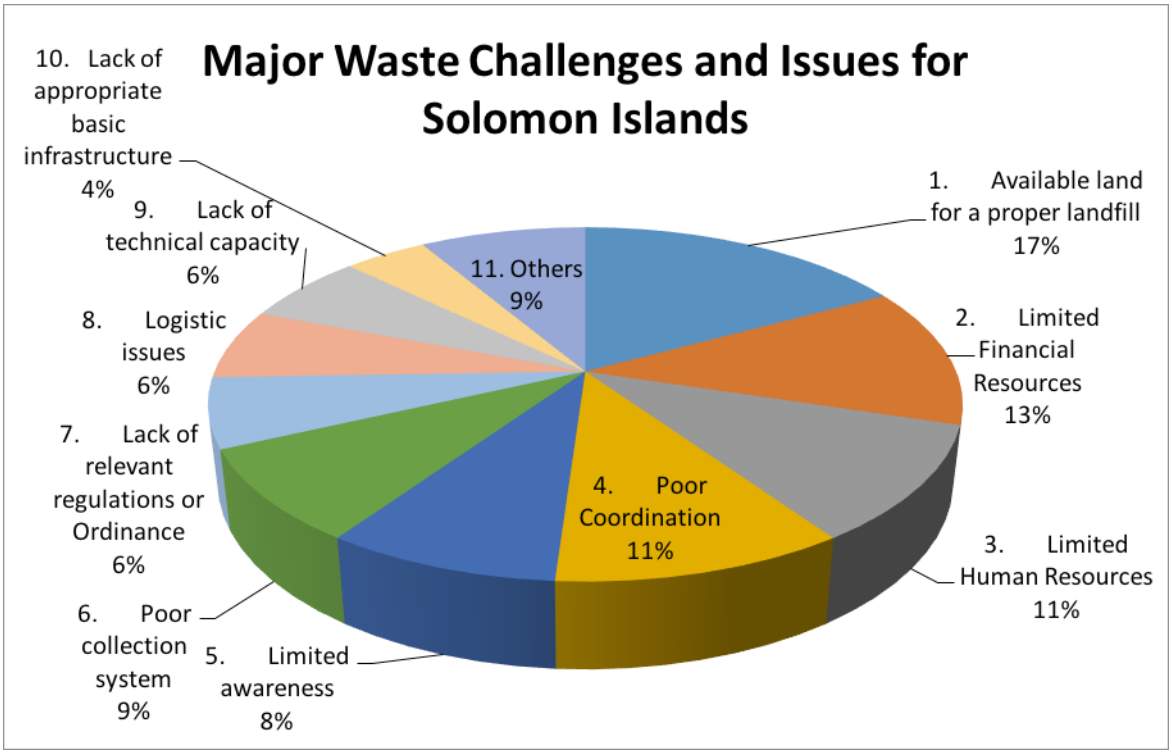


Figure 12: Major provincial challenges and issues

The provincial presentations showed major challenges impeding their ability to manage wastes at the provincial level include:

1. **Lack of available land for a proper landfill** – All provincial centres faced challenges with allocation of land and/or designation of the proper landfill. While the issues surrounding a designated land differ for each province, there is a certain amount of commonality related to proper town planning. Another challenge is the fact that provincial land may not be large enough to include a landfill within its boundary, and thus, the province may find difficulties in convincing customary landowners to use their land as a landfill.

2. **Limited Financial Resources –** All provinces in Solomon Islands are faced with limited financial resources and are heavily dependent on the central government for grants. This means that financial resource allocations are given to essential services such as health and education, with no attention given to managing waste and pollution.

3. **Limited Human Resources** – The issue of limited human resources and capacity is also an ongoing one. While there is a certain level of capacity being developed at the national level, the number of staff being recruited is insufficient to deal with all the waste and pollution issues. The Honiara landfill for example has only one dedicated staff, and for each province, as previously alluded to, the environmental health officers also manage waste and pollution issues. The underlying challenge is with the number of staff members being recruited and the ability of relevant institutions such as MECDM, Ministry of Health and Provincial governments to finance new positions.

4. **Poor coordination** – The challenge of poor coordination can be attributed to a lack of consultation and poor communication between government agencies at different scales in the country. At the national level, the competing priorities and a lack of clear communication processes and strategies also undermine the efforts to address the issues in a collaborative manner. At times, inter-dependency and a lack of clear understanding of the different roles

that each agency plays can cause setbacks to collaborative efforts. The same experience also occurs at provincial and community levels, with some stakeholders pushing the responsibility only to environment related agencies such as MECDM, Ministry of Health and Provincial governments.

5. **Limited awareness** – Limited awareness at times is attributed to the geographic remoteness of the majority of Solomon Islanders in rural areas with limited access to communication mediums such as radio and newspapers. Another challenge is the limited understanding and knowledge of the importance of managing waste and pollution. This also relates to knowledge and information access about relevant actions, strategies, laws and regulations governing the management of waste. In urban centres such as Honiara, there are ongoing efforts to educate the public on the importance of managing waste and pollution. These efforts have been hampered at times by lack of support from stakeholders and public attitudes toward waste and pollution.

6. **Poor collection system** – Poor collection systems are a broad ranging challenge covering urban centres, settlements and communities. This issue is directly related to the ability of responsible agencies to collect and dispose of waste. The consultations undertaken with the provincial governments have shown that having a proper collection system requires significant investment in appropriate equipment. Prior to collection, there is the issue of households and businesses being able to apply the 4R principles to reduce waste. The interplay of resources for collection systems and waste minimisation at the source is at the centre of the issue. Honiara is a prime example of this challenge where the pressure on the collection system of HCC is further exacerbated by the lack of waste segregation by household and business premises. At the provincial level, the challenge is directly related to the absence of proper landfills and the limited capacity to source appropriate collection and disposal equipment.

The above six areas should be seen as priority areas for investment by the Solomon Islands government and responsible stakeholders. The strategic actions under the major focus areas and emerging and targeted focus areas address many of these challenges and issues both at the national and provincial level.

The challenges faced at the implementation level are even more complex. The following examples are highlighted to show that addressing waste is not a one-off activity and requires awareness and understanding at many levels, including the very personal level.

Pilot project-level challenges and issues:

1. **Eco-School challenges and issues:**

    - Lack of support from some school principals and head teachers;
    - Lack of technical knowledge on composting (paper composting);
    - Lack of sense of ownership of the programme by most schools;
    - Less inputs towards the programmes due to workload and other office tasks (J-PRISM team and school staff);
    - Lack of support from Education Authority;

- Lack of financial support from the school administrators;
- No regular monitoring (both J-PRISM team and Eco-school teachers); and
- Lack of commitment.

2. **Eco-bag challenges and issues:**
    - Negative public attitude towards eco-bag campaign;
    - Lack of stakeholder collaboration;
    - Public awareness approach ineffective;
    - Focus of eco-bag campaign to target Chinese shops;
    - Lack of enforcement of market ordinance;
    - Lack of media awareness/promotion;
    - Lack of availability of eco-bags at the market; and
    - Sustainability of the programme.

3. **Panatina community challenges and issues (Eco-community):**
    - Attitude of the people participating;
    - Depend mostly on the EHD/J-PRISM for funds;
    - Low ownership;
    - Inconsistent monitoring of composts and dependence on weather;
    - Human resources issue;
    - Stray dog and Giant African snail issue;
    - Lack of wider integration of SWM programmes at households (members) level; and
    - Most activities were done on weekends and were not available during weekdays.

7. Rationale for a Comprehensive Waste and Pollution Strategy

7.0 Rationale for a comprehensive waste and pollution management strategy

Managing waste and controlling pollution for Solomon Islands will require a national effort that includes high-level political leadership, effective policy and legal frameworks, development of appropriate institutional capacity and attitude changes starting at individual to community, provincial and national levels. The approach to managing waste and pollution needs to be done within the context of Solomon Island where islands and oceans have direct interconnectivity between ecosystems ranging from upland forests to the coastal environment, rivers, lagoons and ocean. This ecosystem connectivity is intricately linked to the livelihood of the majority of the country population whose daily subsistence continues to be dependent on their natural environment and resources.

The reality of what has often been termed as the informal economy, which makes up almost 60 per cent of the economy, underlies the significance of the threat of unmanaged waste and pollution to the country. The rapid pace of population growth will require a broader economic base to support it, and with the country hugely dependent on the extraction of natural resources, waste and pollution issues will be at the forefront.

The growth of the mining industry, for example, will result in the production of toxic waste that could have serious environment pollution consequences. The impact on isolated islands and communities will require appropriate measures in place to mitigate the negative impacts. The marine environment in particular is vulnerable to pollution, and all forms of wastes disposed at sea or from land-based development and activities eventually end up in the sea. This further threatens other sectors such as the tourism industry, which is heavily dependent on the natural scenic beauty and healthy environments. The Solomon Islands national tourism sector presents the country as an adventure travel destination for target markets that have time, patience and a desire to experience unique land- and marine-based environments and to genuinely engage with the local people.[136]

Climate change and disaster management are two critical emerging issues for waste management and pollution control. Waste from landfill emits methane, a greenhouse gas. Reductions in industrial energy use and emissions due to recycling and waste reduction along with potential energy recovery from waste are possible. While all these represent opportunities in terms of harvesting methane, the consequence of accumulated wastes and limited capacity in Solomon Islands means that methane harvest will be a difficult issue to address. Managing waste from natural disasters has also proven to be very costly for Solomon Islands; recent tsunamis in Gizo and Lata and the flooding of Mataniko River, Honiara, cost the government millions of dollars.

136 SIG, SI National Tourism Strategy 2015–2019

8. Towards a Clean, Healthy and Green Happy Isles

8.0 Toward a clean, healthy and green happy isles

8.1 Vision

'Together for a Clean, Healthy and Green Happy Isles of Solomon Islands"

8.2 Mission

"In contributing to the sustainable environment and natural resource management, all Solomon Islanders are empowered to effectively manage waste and control pollution towards cleaner, green, healthy and happy Isles."

8.3 Major objectives

1. Any economic development does not compromise the wellbeing of natural environment, ecosystems and people.
2. Ensure that existing legislations, strategies and guidelines on waste management and pollution control are effectively implemented and enforced.
3. Support and encourage 4Rs and where relevant regulate/enforce waste minimisation for solid wastes, noting that organic waste forms a large component of wastes produced in the country.
4. Develop institutional capacity and train waste and pollution experts for the country.
5. The government through MECDM, provincial government and Ministry of Infrastructure Development (MID) ensure that all provincial centres have proper landfills or waste disposal sites and a functioning waste collection system.
6. All Solomon Islanders are aware of the issue of waste and pollution and are taking appropriate actions to address it.
7. Waste management and pollution control activities are undertaken based on accurate data and research, update information, new innovation and technology.
8. Encourage public-private partnership and investment in waste management and pollution control.
9. There is in place a long-term financial mechanism in place at the national level to manage waste and address pollution issues.
10. International guests and tourists are able to enjoy the natural beauty and aesthetic value of the country.
11. Waste management and pollution control are fully addressed in responses to climate change impacts and natural disasters.

8.4 Overarching principles

- **Sustainable development** — Sustainable development requires that waste management be carried out in a way that does not place undue social, economic or environmental burdens on either present or future generations.

- **Waste hierarchy** — This strategy acknowledges and promotes the Waste Hierarchy principle that includes the 4R concept: Reduce, Re-use, Recycle, Return, Waste minimisation through reduction, separation at source, reuse and recycling prevents the creation of wastes and reduces the quantity and the impacts of waste that is generated**.**

- **Sustainable production and consumption** — This strategy encourages all businesses in the country to develop production and consumption cycle on a sustainable basis. They must take on the responsibility to go beyond waste itself and to consider instead the source of waste, i.e. the demand for goods and services and the productive activity that is undertaken to meet that demand.

- **Extended producer (importer) responsibility principle** — The strategy encourages producers/importers to bear a degree of responsibility for the environmental impacts of their products. It includes upstream impacts arising from the choice of materials and manufacturing process and downstream impacts from the use and disposal of products. Extended producer responsibility (EPR) encourages producers and importers to consider the entire life cycle of their products. It is especially useful for products not easily recovered from the waste stream. EPR encourages businesses to prevent wastes at source, design products to be environmentally friendly and set up take-back and recycling schemes.

- **Consultation principle** — Government and stakeholders at all levels will consult and work with people and organisations throughout the development and implementation of the waste management strategies and action plan.

- **The proximity principle** — Waste from industries and development activities is to be managed close to where it is generated.

- **The precautionary principle** — This principle is a major principle in the Environment Act 1998 for the country. It is the Principle 15 of the Rio Declaration on Environment and Development, adopted at the United Nations Conference on Environment and Development in 1992: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

- **The polluter pays principle** — This principle is also a key principle in the Environment Act 1998 stating that those who cause or generate pollution should bear the cost of it. In the waste management context, the principle means that those who generate waste should bear the cost of managing it so that it does not pose risks to human health and the environment.

- **The principle of intergenerational equity** — This principle implies that waste should not be managed so as to bequeath legacy problems to subsequent generations. Legacy wastes, as well as contaminated sites and old (hazardous) waste-disposal sites, exemplify ways in which future generations could continue to bear the costs—health, environmental and economic—inherited from current poor practices.

- **Ecosystem-based adaptation and management approach** — This approach accounts for the fact that the majority of our people live in rural communities and depend on the natural ecosystems for their daily needs, and as such, the discharge of waste and pollution into the environment threatens these ecosystems and thus their resilience to climate change impacts.

9. Major Focus Areas

9.0 Major focus areas

9.1 Creating the enabling environment

Outcome: ***Robust policy and legislative frameworks are in place supported by strong institutions with skilled and trained people to lead waste management and pollution control.***

To strengthen the manner in which waste is managed in Solomon Islands, there has to be an environment conducive for that to occur. The enabling environment in terms of policy, legislation and capacity must be fully realised. Many of the capacity-related issues must be addressed at the systemic, institutional and individual level. This can be approached at different and multiple forefronts with the view to strengthen the ability of all sectors to manage their wastes effectively. The geographic disparity and diversity means that there is no single approach to waste management for Solomon Islands. However, the enabling environment needs to be strengthened to ensure that there is capacity to undertake specialised tasks where required.

The strategic actions recommended are mostly at the broad national policy level. There already exist a number of policy and strategies being formulated, and so this document reinforces the need for their implementation. There are also broader strategies that require urgent action and will require intensive consultations due to the potential economic impacts.

Strategic actions:

9.1.1 Implement and enforce relevant sections of the Environment Act 1998 which focuses on managing wastes and pollution from prescribed premises.

9.1.2 Establish a national waste and pollution committee with sub-committees on specific wastes such as chemicals, E-wastes, waste oil, healthcare wastes and waste water.

9.1.3 Undertake a national stock take of all prescribed premises for Honiara, Gizo and Auki followed by other provincial centres and towns.

9.1.4 Implement, enforce and monitor the waste management and pollution component of existing legislations such as the Mines and Minerals Act, SIWA Act and Environmental Health Act and other relevant national provincial ordinances

9.1.5 Undertake a waste management capacity assessment for all major provincial centres starting with Honiara.

9.1.6 Provide government agencies and private sector organisations with required technical resources to formulate internal organisation policies on waste management and pollution control.

9.1.7 Undertake an initial consultation and study for environment tax to be initiated as part of a broader environmental management, of which waste management and pollution control will be components.

9.1.8 Each province with the support of MECDM to establish a working group or a committee and focal points to coordinate and support all activities related to waste management and pollution control.

9.1.9 MECDM to lead the formulation of pollution control standard guidelines guided by internationally recognised standards such as the WHO and ANZECC.

9.1.10 Establish a waste and pollution control unit within MECDM.

9.2 An integrated approach to waste management and pollution control

Outcome: ***All provinces have in place basic waste management and pollution control systems such as a designated landfill, a waste collection and disposal system and applying the fundamental 4Rs principles.***

There is a need for a broader perspective when it comes to managing waste throughout the country. A number of historical, cultural, social and economic factors come into play, and it is important that these are fully considered. An example is that waste education is very limited or non-existent in villages and communities with the majority of the waste produced being organic and thus dumped into village backyards. This same attitude is brought into urban centres and has negative consequences as waste is dumped in backyards. Other economic factors as a developing country comes into play when businesses regard their waste as not their responsibility but that of the city council. The country also suffers from very limited capacity both in terms of human resources and financial resources. Many of the provincial centres throughout the country including Honiara lack the very basic infrastructure to manage wastes and pollution.

These challenges mean that there has to be a better approach to managing waste and pollution using methods that have been tested elsewhere. These methods include having a proper landfill in place and a collection system as the first and foremost step forward. The application of the four R's is critical for an island country like Solomon Islands and forms the backbone of the various approaches.

Strategic actions:

9.2.1 The four R's—Refuse, Reduce, Recycle and Reuse—are adopted as the underlying principle of all waste management implementation in the country.

9.2.2 Each province will work with national level lead agencies to secure land for proper landfills and designated disposal sites.

9.2.3 A national guide on landfill and disposal site use and management will be developed and applied for all provinces.

9.2.4 Each province will work with lead agencies to have in place a functioning well-managed, efficient and self-sustaining waste collection and transfer systems.

9.2.5 Prepare and formulate national standards and protocols on how to handle all types of waste during segregation, collection and disposal.

9.2.6 A legislation banning the use of all plastic bags is to be in place by 2020 with bio-degradable bags as a replacement.

9.2.7 Formulate national guidelines on the disposal and management of E-wastes with a section regarding the specific component of waste from solar lighting and other sources.

9.2.8 Implement through phases and pilot the following waste thematic policies:

a. The National Health Care Waste Policy; and

b. National Implementation Plan on Persistent Organic Pollutants (POPs).

9.3 Training and research

Outcome: ***Innovative waste management initiatives and actions that are based on accurate data and research with monitoring systems led by qualified and skilled waste and pollution experts.***

The current phase of development for Solomon Islands and the challenges it faces managing waste and pollution reinforce the importance of training and research. A lot of training needs to be done for those managing wastes, training for managers and broader empowerment for the whole community on the importance of proper waste and pollution. Research data and information will also need to be collected concerning the status of waste and pollution throughout the country, including Honiara. While some information has already been collected, more is necessary to ensure that actions undertaken are based on concrete data.

Strategic actions:

9.3.1 MECDM to ensure that data and information on waste and pollution are stored in a database available for public, planning and decision making

9.3.2 Consult with NTU to ensure that at least four specialised scholarships for waste management and pollution control are offered at the post-graduate level every year for the country.

9.3.3 SINU environment courses also include units on waste management and pollution control.

9.3.4 Collaborate with SINU and other institutions on research to find innovative ways to address waste management and pollution control in the country.

9.3.5 Organise national periodic training and capacity development activities for officers responsible for waste management and pollution control throughout the country.

9.3.6 Ensure that appropriate officers from all provinces have an opportunity to undergo training related to waste and pollution provided by development partners such as JICA and other agencies.

9.3.7 MECDM organises training on waste management for provincial centres and communities.

9.3.8 MECDM to initiate the process to develop national expertise on ISO standards relating to pollution control and managing waste.

9.3.9 Support and encourage local level innovative means to manage waste and pollution control.

9.4 Awareness, communication and education

Outcomes: ***An informed, aware and empowered population who support and participate in waste management and pollution control activities.***

The need for awareness, communication and continuing education is the backbone to the efforts to waste management and pollution in Solomon Islands. With literacy still very low by normal standards, the issue of waste for the country is intricately linked to knowledge, understanding and attitudes. It is common knowledge that the attitude of people has been responsible for much of the lack of proper disposal of waste in urban centres, such as Honiara.

Studies have also shown that in more developed countries, changing people's attitudes and perspectives on waste requires an inter-generational approach. Invoking one of the main principles of this strategy, educating the next generation through curriculum on waste and pollution management is critical to the longer-term vision of a cleaner Solomon Islands.

Strategic actions:

9.4.1 All provinces collaborate for bi-annual awareness events coordinated by the lead agencies.

9.4.2 Formulate awareness and communication materials relevant for the country and promoted at national, provincial and community level.

9.4.3 Waste and pollution management education are integrated into current curricula at the primary, secondary and tertiary levels.

9.4.4 MECDM to liaise with respective Education Authorities for a programmatic and standardised approach to waste and pollution management in all schools.

9.4.5 Liaise with donors, public and private entities to support media publications or public messages on waste and pollution management.

9.4.6 Formulate and implement a national communication strategy on waste and pollution management.

9.5 Public-private partnership

Outcome: ***Public-private partnership initiatives are formally established and effectively tackling waste management and pollution control issues.***

The public-private sector approach for waste management and pollution control is very important for large urban areas such as Honiara and other major provincial centres. The three critical areas which needs attention for urban centres include:

1) managing waste at the source;

2) the need for an effective collection system; and

3) proper management of landfill/dumpsites.

This has been a major challenge for Honiara, the largest urban centre with increasing influx of urban migrants. Honiara is a small city with a boundary of approximately 24.1 square kilometres divided into 12 wards. Honiara is highly populated, and the rapid pace of change has resulted in many problems such as increasing poverty, inadequate and poor provision of basic urban services, environmental degradation and a rise in squatter settlements. The 2009 census recorded a population of 64, 609 with an urban growth rate of 2.7%, an indication of high rural-urban migration.

Mechanisms such as agreements with the city or town council with business houses can outsource to a private waste management company through the public-private partnership arrangements. The public-private partnerships will not replace the role of the city and town council but merely strengthen its ability to manage waste and pollution. This will ensure that the city and town council has an effective waste collection system in place.

Strategic actions:

9.5.1 Public-private partnership is to be encouraged with a focus on the three critical areas, established and implemented in urban areas such as Honiara and other provincial centres.

9.5.2 SIG provides tax incentives for the first three years of a public-private partnership arrangements focusing on improving waste management and pollution control.

9.5.3 Community partnerships with public and private entities will be encouraged in each of the provinces and Honiara.

9.5.4 Document lessons learned from past and ongoing waste management projects such as the Mataniko project on public and community partnership on managing wastes.

9.5.5 Organise a national waste management and pollution control forum bringing together the private sector, NGOs and government agencies.

9.6 Infrastructure, equipment and cleaner technology

Outcome: ***Appropriate waste and pollution management infrastructure are in place, with industries shifting towards cleaner technologies and regulatory agencies fully equipped to monitor waste and pollution.***

A major challenge is trying to manage waste and pollution in the absence of appropriate infrastructure, equipment and technology. Because the root cause is related to financial resources, it is important from a strategic perspective to invest in appropriate infrastructure, equipment and technology. A good example is plastics and PET bottles building up on an isolated island without a landfill or proper waste dumping site. The most ideal response would be to have a proper dumping site, but that also means having right equipment for collection and disposal. This same issue is faced in Honiara where very expensive open vehicles are used for waste collection.

Another example is waste oil which can be easily collected and stored but with no proper facility in the country to deal with it. In many of the provincial urban towns such as Auki, Gizo and Noro, and even Honiara it is very easy to bring awareness for members of public to properly dispose their waste but having an effective collection system means that waste continue to accumulate at collection points.

Strategic actions:

9.6.1 Support government, development partners and private sector investment in waste management infrastructures and facilities such as landfills, recycling plants, reuse and minimisation of wastes and cleaner technologies.

9.6.2 MECDM and MID prepare a joint cabinet paper on proper landfill and disposal sites development for the nine provinces.

9.6.3 Encourage and support all manufacturers to adhere to and shift towards cleaner technology with incentives provided.

9.6.4 Support and recognise initiatives that reward 'green companies' annually with awards.

9.6.5 Fully equip all regulating agencies of waste and pollution management for monitoring of waste and pollution.

9.6.6 Invest in existing laboratories to ensure that they are fully certified to test for major forms of industrial waste, chemicals and pollutants.

9.6.7 Strengthen the Fukuoka method at the Ranadi landfill and extend similar and appropriate practices to provinces.

9.6.8 Support communities with appropriate technology and tools to manage waste and pollution.

9.7 Stakeholder engagement and the role of women and faith-based organisations

Outcome: ***Effective broad stakeholders' engagement and participation of women and the Church to address waste and pollution.***

Stakeholder engagement in the efforts to manage waste and pollution control form an important part of this strategy. The varying interests, knowledge and understanding are always subjective to which stakeholders are engaged. Therefore, it is important that careful stakeholder engagement is exercised in the implementation of all the components of the strategy. Talking to those who live in squatter sites where there is very little space and access to proper collection systems will require sensitivity.

In the same manner, engaging with private sectors will also require different approaches compared to those used with community based stakeholders. Keeping in mind the broader objective of effective waste management and pollution control and looking for solutions will therefore be important.

A special focus on the role of women and the church is a reflection of the reality that exists in many communities around the country. The focus on women does not mean that other members of the community are less important but rather is a reflection of the fact that in many communities throughout the country, and in homes in urban areas, women are the leaders when it comes to wastes and to a certain extent pollution.

The church and faith-based organisations in the Solomon Islands are probably the only institution that is present in nearly every community throughout the country. This means when it comes to awareness and education on waste management and pollution control, these organisations can be the key drivers to reach the mass isolated Solomon Island population and campaign for changes of attitude towards waste and stewardship of the environment.

Strategic actions:

9.7.1 Ensure that all stakeholders and community members are fully informed of the importance of waste management and pollution control.

9.7.2 Women's groups are to be engaged in innovative waste management activities for each provincial centre and community.

9.7.3 MECDM and lead agencies forge partnerships with churches (SICA and SIFGA) to undertake waste management and pollution control awareness and integrate the concepts in their daily teaching and religious instructions.

9.7.4 Ensure that all environment NGOs and other civil society groups integrate waste and pollution as part of their work programme in the communities.

9.8 Financial instrument and sustainability

Outcome: ***Have in place predictable and long-term financing mechanisms and economic instruments that secure the continuity and expansion of waste management and pollution control activities.***

The implementation of this strategy depends on an effective financial and management system, which ensures timely delivery of waste management and pollution control services. It will require strengthening existing financial systems, exploring new possibilities and securing effective financial instruments that enhances and promote sustainability.

The focus would be to review existing revenue collection systems, including head tax (basic rate), property tax (land rate), business tax, gaming and casino tax, vehicle tax, liquor tax and fees for services rendered, and to provide incentive for research into feasibility of new approaches to subsidise SIGs grants and foreign aid. A case study by ADB[137] for Honiara revealed that the lack of funding for adequate management of solid wastes in Honiara remains an issue, especially given the high number of informal settlers who do not pay council rates and low collections among ratepayers. Hence, the majority of the rates had improved, but the quality of services tendered is still poor. The challenge is to manage the limited finance in order to provide lasting impacts for the growing population.

Strategic actions:

9.8.1 Explore the possibility of establishing a trust fund for waste management and pollution control programmes managed by a steering committee, supported by an agreed and approved plan, and an approved procurement system.

9.8.2 Improve consultation and links among lead agencies to effectively allocate resources for waste and pollution control activities as part of their annual budgeting process.

9.8.3 Ensure financial audits are carried out on waste management and pollution control programmes to strengthen financial confidence and ensure sustainability.

9.8.4 Review the current HCC tax system and user pay policy to include people living in squatter settlements to enable the council to provide waste and pollution management services.

9.8.5 Solicit bureaucratic and political support to prioritise allocation of financial resources and budget towards waste and pollution control programmes for provincial government.

9.8.6 Increase funding support and allocation for existing 4R programmes and support household-level 4R activities.

9.8.7 Undertake a cost-benefit analysis of options to implement polluter pay, extended producer/importer responsibility, CDL programmes and a tourism tax as long-term finance mechanisms.

9.8.8 Strengthen development partners' coordination, networking and partnership to solicit support for waste management and pollution control.

9.8.9 HCC to enforce existing bylaws on littering for Honiara city.

137 http://www.adb.org/sites/default/files/publication/42662/solid-waste-management-solomon-islands.pdf

10. Emerging and Targeted Focus Areas

10.0 Emerging and targeted focus areas

10.1 Waste and pollution in the aquatic and marine environment

Outcome: ***Reduce all forms of waste and pollution in rivers, lagoons, lakes, waterways and the marine environment.***

The majority of the waste and pollution in the country enters the marine and aquatic environment through run-off from streams and rivers, discharge from ships, untreated sewage, natural disasters and poor farming practices. Population growth, the increase in imports of polluting and hazardous substances and poor disposal practices combine to contribute to more waste and pollution.

The remedy to the situation requires a strategy that prioritises delivery of services with clear focus on key waste and pollution management activities. The strategy must address the lack of appreciation by people of the marine and aquatic environment, lack of knowledge of the impacts of waste and pollution, weak regulation and enforcement, lack of infrastructure and equipment to support waste management and pollution control initiatives and the lack of consistent political and financial support.

In addition, the management of waste and pollution from ships remains to be fully addressed. According to the Solomon Islands Maritime Safety Administration (SIMSA), enforcement of the shipping act and marine pollution regulation requires resources and technology. The government needs to commit to its obligation to fully address the Convention on Prevention of Marine Pollution by Dumping of Wastes and related issues.

Waste water and sewage discharge is among the most important waste management issues for urban centres and Honiara. The mandate to manage this discharge rests squarely with Solomon Water, formally known as the Solomon Islands Water Authority. Section 7 (e) of the SIWA Act states its responsibility to provide, construct, operate, manage and maintain buildings, works, systems and services for the conveyance, treatment and disposal of sewage, disposal of trade and industrial waste water and other connected purposes.

Strategic actions:

10.1.1 Formulate an integrated guideline on aquatic and marine waste and pollution management jointly monitored by SIMSA and MECDM.

10.1.2 Implement and enforce relevant regulations for waste management and pollution control in the marine environment.

10.1.3 Review the current *Marine Pollution Regulation 2012* where relevant to include broader marine waste management issues.

10.1.4 Develop specific guidelines for oil spillage, solid waste associated with international trade and domestic ships and ballast water.

10.1.5 SIMSA to lead the development of a national plan to manage the removal of ship wreckages.

10.1.6 Undertake an assessment to understand existing community governance on waste management and pollution control in the aquatic and marine environment.

10.1.7 Enforce and implement requirements for waste and pollution management in accordance with the *Fisheries Management Act 2015*.

10.1.8 SIWA to include in their strategic plan proper liquid waste treatment for urban centres and to have in place proper liquid waste management systems to reduce pollution.

10.1.9 SIG and development partners to support SIWA led initiatives to invest in the appropriate liquid waste treatment facilities and infrastructure.

10.2 Waste and pollution impacts on tourism

Outcome: ***The country is able to offer a competitive advantage in tourism opportunities based on a clean and pollution-free environment, nature and cultural tourism.***

Everyone wants to live in and visit places that are clean, fresh and healthy. A city or community with poor disposal practices, that is dirty or that has sewage treatment issues does not attract investors and tourists. Poor waste management indirectly has impact on the country's gross domestic product (GDP). Tourism is termed the cleanest industry compared with manufacturing, which creates a lot of pollution and consumes natural resources. Nonetheless, waste associated with tourism cannot be ignored because it requires management and adoption of best practices.

Solomon Islands tourism is yet to reach its full potential. The Ministry of Culture and Tourism is embarking on strengthening finance and technical support to business operators, strengthening coordination with other line ministries, improving current strategies and policies and providing consistent support and capacity to service providers, like the Solomon Islands Visitors Bureau (SIVB) to promote and market Solomon Islands as destination for the world. According to SIVB reports, tourists were disappointed with the current waste management system in the capital city. The capital is the gateway to the provinces and is supposed to show a convincing and attractive scenario to any tourists entering the country. Holiday tourists refuse to stop over in Honiara where the majority of hotels are located; as a result, SIVB cannot package tours in Honiara and in provincial urban centres. The government will need to reinforce its commitment to improve land use planning, the attitude of people, legislation, partnership and networking with important stakeholders to ensure Honiara provides an environment conducive for tourism.

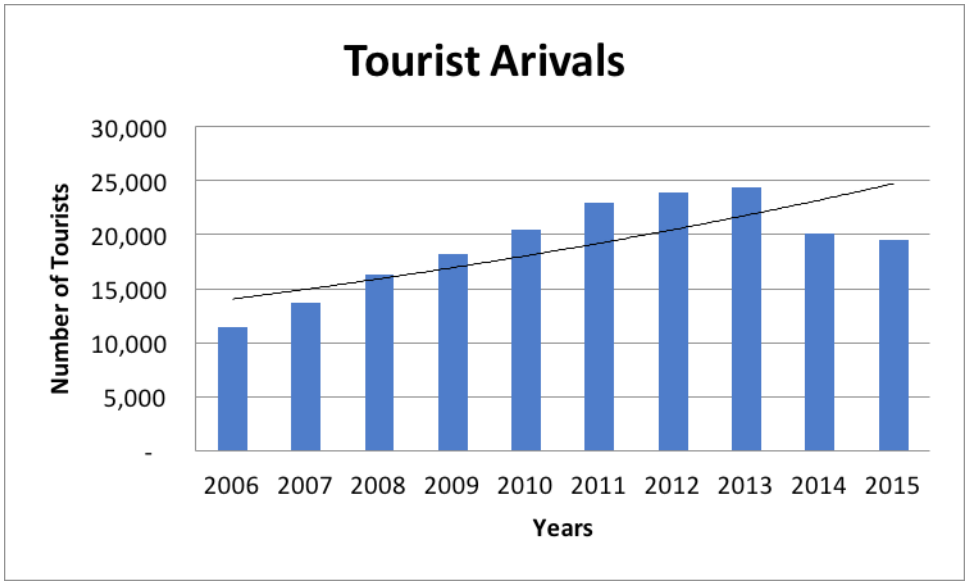


Figure 13: Tourist arrivals, SIVB

Strategic actions:

10.2.1 Review town and country planning regulations to address design standards and guidelines for the management of tourism activities that produce waste and pollution.

10.2.2 Ensure that the development of tourist-oriented infrastructure, national parks and recreation infrastructure adheres to strict building code regulations that are approved by a planning board.

10.2.3 Promote waste management through organised festivals, medias and participatory clean ups.

10.2.4 Establish networks and partnerships with important stakeholders on tourism and waste.

10.2.5 Establish a system with recycling companies to collect recyclable items from resorts, hotels and from provincial tourism operators.

10.2.6 Explore the feasibility of establishing a tourism tax system for travellers.

10.3 Waste and pollution in the manufacturing, extractive and mining industry

Outcome: ***All industries adhere to legally binding waste and pollution guidelines and standards that are effectively monitored and enforced***.

As the country develops, it is faced with environmental and social impacts associated with mining, manufacturing and the extractive industries. The obvious impacts include erosion, loss of land, loss of biodiversity, siltation, contamination of water bodies, social disruption, limited benefits, health and safety related issues and changes to the social landscape. The associated costs to address these issues will require resources, financial commitment from companies and coordination with host communities and the government.

The country's first ever gold mine operation opened in 1998 by Rose Mining Company, in Central Guadalcanal, approximately 30 kilometres from the capital, Honiara. This mine was abandoned in 2000 due to the civil unrest but then acquired and rehabilitated by Allied Gold in 2012. Two years later, the mine was sold to St Barbara but was shut down unexpectedly following the April 2014 flash floods. The turnover of companies over the years had caused uncertainty about the fulfilment of environmental and social obligations. Currently, there are still eminent issues with the disposal of old machineries, disposal of chemical reagents such as cyanide or hydrochloric acid and the management of stockpiled materials and household waste from the resettlement villages. Siltation and acid drainage from stockpile materials over the years continuous to be a threat. There is evidence of improper buffer systems or acid drainage, resulting in sedimentation and arsenic discharge into water bodies. According to the Mines and Minerals Division (MMD) and ECD, there was an overall non-compliance to the company's own environment management plans, manuals and standard operating procedures.

Among other multilateral environment agreements, the country is signatory to the Noumea Convention with a specific commitment to Article 13 addressing the management of mining, extraction, reclamation and dredging. The legislative gaps, weak enforcement, limited technical capacity, financial constraints and political interference continue to undermine efforts to adhere to best practices. The Mines and Minerals Act was recently reviewed to address these gaps; however, this is yet to be gazetted.

The manufacturing sector also requires environmental audits including evaluation of current management systems and investigation regarding adherence to international best practices. The environmental impacts associated with untreated discharges from manufacturing are evident and occurring. It is difficult at this stage for ECD to monitor compliance due to current staff shortages and lack of standards to compare results. This issue is becoming critical with the increase in small to large scale manufacturing being established without approved guidelines. A guideline for onshore fishing processing plants 2015 developed by MFMR paved the way for specific guidelines from other sectors.

Strategic actions:

10.3.1 Ensure compatibility of mining-related policies and legislation to the requirements of the Environment Act and other environment-related legislations and guidelines.

10.3.2 Strengthen the capacity of the ECD and EIA practitioners to thoroughly examine EIA studies for large scale projects and make provisions for external review before granting approvals.

10.3.4 Develop guidelines based on ISO standards for manufacturing industries supported by relevant legislations.

10.3.5 Make provisions in existing legislations to have specific agreements in the design phase with manufacturing, extraction or mining companies to procure appropriate technologies for treatment of waste.

10.3.6 Ensure all industries have in place pollution control and emergency response plans in accordance with international safety standards as part of developers' EIA requirements.

10.3.7 Have a system in place to ensure that industries and mining companies provide environment monitoring and safeguards progress reports to the Government and relevant stakeholders for technical reviews.

10.3.8 Require developers and companies to develop waste and pollution standard operating procedures (SOP) regarding any discharge into the environment.

10.3.9. Establish within ECD a compliance and enforcement unit with powers to prosecute where environment laws are not being adhered to.

10.4 Waste and pollution on isolated islands and communities

Outcome: ***A system in place to manage waste and pollution on isolated islands and communities without compromising the integrity of the natural ecosystems and human wellbeing.***

Solomon Islands consist of 992 islands spread over the archipelago, with the majority of the islands and communities being remote and having limited access to roads, airstrips and wharves. This means that management of solid and liquid waste is even more difficult for all stakeholders.

The government needs to explore feasible actions and projects including mainstreaming waste management and pollution control into existing programmes. One such opportunity is the current MID franchise shipping scheme. The government through the MID with support from Asian Development Bank (ADB) successfully introduced and implemented a franchise shipping scheme for non-economical routes throughout the country. The scheme enables access to shipping services more frequently and reliably for remote communities or islands and their commodities. However, the scheme is dependent on financial commitment from donor partners, including the SIG.

As the population and trade increase the accumulation of waste, in remote islands and communities becomes increasingly important. The common practices of disposal include burning of rubbish, indiscriminate dumping, dumping of waste under fruit trees, feeding to animals, burying and to some extent the re-use of non-biodegradable waste. Waste management practice in rural societies

is a cultural norm based mostly around bio-degradable goods; however, the introduction of modern goods and products means that new ways to address these must be considered.

Currently, there are no processes to recover solid waste from remote communities and islands. The majority of the liquid waste and chemical wastes such as oil and fuel spillage from commercial developments are not accounted for. This means that many of them end up in the natural environment, in particular marine and aquatic environments such as mangroves and nearshore water bodies.

Strategic actions:

10.4.1 Conduct waste impact assessments and research into suitable approaches to recover waste from remote islands and communities.

10.4.2 Integrate waste management practices into existing franchise shipping schemes that enable return of non-biodegradable solid waste to urban landfills.

10.4.3 Increase budgetary allocation and recruitment of staff into ECD to carry out compliance monitoring on developments occurring in remote communities and islands.

10.4.4 Develop provincial ordinances to support existing legislation on waste management and pollution control.

10.4.5 Establish a mechanism (chiefs and church leaders) to support existing social structure at the provincial and rural level to report and manage waste and pollution.

10.4.6 Revive traditional knowledge and cultural practices to reduce waste through education and awareness.

10.4.7 Strengthen community leadership through the participation of church leaders, chiefs, youths, women and NGOs on waste management and pollution control.

10.4.8 Strengthen healthy village setting programmes through R-WASH and in partnership with NGOs, FBOs and CBOs.

10.4.9 Develop community based solar panels and battery waste management guidelines for Solomon Islands.

10.4.10 Integrate waste management activities into marine protected areas and conservation programmes.

10.5 Waste and pollution impacts on health

Outcome: ***Hospitals and clinics resourced with feasible technologies to improve their capacity to manage health care wastes.***

The Government's policy vision on health is to ensure citizens are healthy, productive and continue to participate in the country's socio-economic activities. According to the 2014 SPREP PacWaste report, the country is faced with challenges including lack of a waste management framework to manage hospital waste and limited knowledge by health officers on policies, legislation and regulations. Current segregation and storage practice are below minimum standards, trainings are not structured and targeted, there no treatment facilities especially in the capital Honiara, and general safety requirements are often not adhered to.

Strategic actions:

10.5.1 Implement the healthcare waste management policy.

10.5.2 Procure technologies and consumables for segregation and storage of healthcare waste.

10.5.3 Develop and deliver a structured healthcare waste management training programme to all hospital personnel as well as personnel from other relevant stakeholder agencies (e.g. government health and environment agencies).

10.5.4 Repair and maintain treatment facilities for all hospitals and clinics in the country.

10.5.5 Identify feasible locations for incinerators with consideration of the limited available spaces at hospitals and proximity to residential areas.

10.5.6 Construct healthcare waste storage facilities for all hospitals and clinics based on acceptable design standards.

10.5.7 Supply appropriate PPE, in particular overalls/protective clothing and eye protection and safety boots, for all waste handlers and train them on their use.

10.5.8 Ensure health inspectors are equipped to monitor and enforce compliance to the Environment Health Act and related legislations.

10.5.9 Fully implement the R-WASH policy and programmes of actions for each of the provinces.

10.6 Waste and pollution and climate change

Outcome: ***Reduce emissions from waste and pollution and ensure that mitigation and adaptation technologies do not further contribute to waste and pollution.***

Solomon Islands ratified the United Nation Framework Convention on Climate Change (UNFCC) on 28 December 1994. The UNFCCC is a commitment towards addressing the causes and challenges faced with climate change. Following the ratification, Solomon Islands developed the initial and second national communication, a mechanism of reporting climate change issues through lessons learned from country projects and programmes back to UNFCC. NAPA was developed in 2008 focusing on country-wide adaptation. One of the key profile targets in NAPA is to address waste management issues through an integrated and sustainable approach. According to the NAPA report, information on waste management and climate change is lacking. As a result it is challenging to develop relevant adaptive strategies or action suitable for the Solomon Islands context.

In addition, the country also acceded to the Stockholm Convention on POPs on the 28 July 2004. The objective of the convention is to eliminate and reduce the production and use of POPs. MECDM is implementing a POPs monitoring project as part of the broader Pacific Islands regional project executed by the University of the South Pacific (USP). Research found that climate change is expected to influence the levels of persistent organic pollutants (POPs) found in the environment, their long-range transport and toxic effects[138].

The challenge is limited activity data on greenhouse gas (GHG) emissions from waste generation, decomposition, disposal and management. Poor practices which include open burning, open disposal of decomposable solid and liquid waste and the overall poor state of waste management in the capital and provinces contribute to emissions of GHG. Efforts to collect methane gas from current rubbish dump sites and convert wastes into useful renewable energy technologies are still lacking.

The formulation of the Solomon Islands national climate change policy 2012–2017 was in part a fulfilment of the obligations under the Convention. The Policy is a response to the challenges and opportunities that climate change presents to the country. Now that the policy is completed, the challenge for the government is political will and commitment to drive the implementation.

Strategic actions:

10.6.1 Strengthen the capacity of ECD and CCD to carry out monitoring, collection and archiving of waste and pollution data related to climate change.

10.6.2 Climate Change Division (CCD) to develop guidelines and standards for GHG emissions for the respective sectors, e.g. transport and manufacturing.

10.6.3 Enforce penalties for non-compliances to GHG emission requirements where appropriate.

10. 6.4 Develop technologies and infrastructures to minimise GHGs, including:

138 http://chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-GMP-PROMO-ClimateChangeResearch.En.pdf

1. conversion of waste into useful products; and

2. capture and use of gases (i.e. methane) through innovative sustainable technology.

10. 6.5 Encourage extensive sustainable farming practices through the use of organic waste.

10. 6.6 Encourage renewable technology relevant to solid and liquid waste.

10.6.7 Establish a national level mechanism to collect and recover waste solar panels, batteries and other renewable energy technology, to prevent these materials becoming waste and pollution into the environment throughout the country.

10.6.8 Promote ecosystem-based adaptation approach to strengthen community and natural resources resilience to climate change impacts.

10.7 Waste and pollution from natural disasters

Outcome: ***Disaster response plans have in place functioning processes and procedures to address waste and pollution during natural disasters.***

Solomon Islands is prone to cyclone, floods, tsunamis and earthquakes. The 2007 earthquake and tsunami are estimated to have caused damages equivalent to 80 per cent of the GDP with 52 casualties, 36,000 affected people and 15,000 displaced people.[139] Recent flash flooding in Guadalcanal Province in April 2014 is estimated to have caused damages and losses equivalent to nine per cent of GDP, with 10,000 displaced people, and 22 fatalities[140]. A case study in the Solomon Islands by the Global Facility for Disaster Reduction and Recovery (GFDRR) revealed that factors that combine to make the Solomon Islands significantly vulnerable to this wide range of natural hazards include a weak economy and limited livelihood opportunities, ethnic tensions and political instability and widely dispersed inaccessible communities.

Post recovery activities are challenging to manage in a country having widely dispersed islands and communities. Disaster support often reached communities at a very late state. NDMO, the agency responsible for disaster management need to address resource constraints, ensure there is political support and realistic budgets. NDMO must be acknowledged for managing disaster response programmes in collaboration with government and donor agencies. It is important that waste management and pollution control activities are integrated in current post-disaster responses.

The country does not have an emergency response plan or appropriate technologies to manage waste and pollution from natural disasters. It is uncertain to what extent the current ECD department can operate, but resources, technical strengths and technologies are needed.

139 https://www.gfdrr.org/sites/default/files/publication/country-profile-2016-solomon-islands.pdf
140 https://www.gfdrr.org/sites/gfdrr/files/region/SB.pdf

Strategic actions:

10.7.1 Develop a waste management and pollution guideline for disasters

10.7.2 Ensure developers and companies have emergency response plans in accordance with national and international safety standards to deal with disaster wastes and pollution

10.7.3 Strengthen capacity and provide the technologies needed by ECD and NDMO officers to manage waste and pollution control activities for disasters

10.7.4 Ensure budget for post-disaster activities captures waste management and pollution control activities that budget mainstream waste management and pollution control into the disaster response plan.

11. Monitoring Framework

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Major Focus Area															
9.1 Creating the Enabling Environment	Robust policy and legislative frameworks in place supported by strong institutions with skilled and trained people to lead waste management and pollution control.	9.1.1 Implement and enforce relevant section of the Environment Act 1998 which focuses on managing wastes and pollution from prescribe premises.	MECDM	MCT, HCC, MPGIS, MHMS, RSIPF, HCC Police, Provincial Governments	1										
		9.1.2 Establish a national waste and pollution committee with sub-committees on specific wastes such as chemicals, e-wastes, waste oil, healthcare wastes and waste water.	MECDM	MCT, HCC, MPGIS, MHMS, RSIPF, HCC Police, Provincial Governments, SIMSA, MID, Private Sector, MoFT (customs, ICT)	1										
		9.1.3 Undertake a national stock take of all prescribed premises for Honiara, Gizo and Auki followed by other provincial centres and towns.	MECDM	Provincial Governments, MPGIS, Private Sectors, Local Communities, HCC	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.1 Creating the Enabling Environment	Robust policy and legislative frameworks in place supported by strong institutions with skilled and trained people to lead waste management and pollution control.	9.1.4 Implement, enforce and monitor the waste management and pollution component of existing legislations such as the Mines and Minerals Act, SIWA Act and Environmental Health Act and other relevant national provincial ordinances.	MHMS, MMERE, Provincial Governments, MECDM	Private Sector, MID, SIMSA	1										
		9.1.5 Undertake a waste management capacity assessment for all major provincial centres starting with Honiara.	MECDM, Provincial Governments, HCC	SPREP and JICA, Statistics Office (MoFT)	1										
		9.1.6 Government agencies and private sector organisations provided with required technical resources to formulate internal organisation policies on waste management and pollution control.	MECDM, Public Service	SPREP and JICA, Other Development Partners, Private Sector, All Government Ministries	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.1 Creating the Enabling Environment	Robust policy and legislative frameworks in place supported by strong institutions with skilled and trained people to lead waste management and pollution control.	9.1.7 Undertake an initial consultation and study for environment tax to be initiated as part of a broader environmental management, of which waste management and pollution control will be components	MECDM, MoFT, MCT,	Provincial Governments, HCC, SPREP, JICA, Private Sector											
		9.1.8 Each province with the support of MECDM to establish working group or a committee and focal points to coordinate and support all activities related to waste management and pollution control.	Provincial Governments, HCC, MPGIS, MECDM	Local Communities, Private Sector, Churches, SPC Youth @ Work, Schools	1										
		9.1.9 MECDM to lead the formulation of pollution control standard guidelines guided by internationally recognised standards such as the WHO and ANZEC.	MECDM, MMERE, MHMS	SPREP, HCC, Provincial Governments, WHO, JICA, ADB, UNDP	1										
		9.1.10 Establish a waste and pollution control unit within MECDM.	MECDM, Public Service	MoF	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.2 An Integrated Approach to Waste management and Pollution Control	All provinces have in place basic waste management and pollution control systems such as a designated landfill, a waste collection and disposal system and application of the fundamental 4Rs principles.	9.2.1 The four R+: Refuse, Reduce, Recycle and Reuse adopted as the underlying principle of all waste management implementation in the country.	MPGIS, Provincial Governments, HCC	MECDM, JICA, SPREP, Communities, NGOs, Private Sector	1										
		9.2.2 Each province will work with national level lead agencies to secure land for proper landfills and designated disposal sites.	MPGIS, Provincial Governments, MID, Landowning Groups, MLHS	MECDM, MHMS, JICA, SPREP, Local Communities	1										
		9.2.3 A national guide on landfill and disposal site use and management will be developed and applied for all provinces.	MECDM, HCC	SPREP, JICA, MPGIS, Provincial Governments, MHMS	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.2 An Integrated Approach to Waste management and Pollution Control	All provinces have in place basic waste management and pollution control systems such as a designated landfill, a waste collection and disposal system and application of the fundamental 4Rs principles.	9.2.4 Each province will work with lead agencies to have in place a functioning well-managed, efficient, and self-sustaining waste collection and transfer systems.	Provincial Governments, MECDM	Private Sector, JICA, SPREP, NGOs, MHMS	1										
		9.2.5 Prepare and formulate national standards and protocols on how to handle all types of waste during segregation, collection and disposal.	MECDM, MMERE, SIMSA, MPGIS, Provincial Governments	AG, NGOs, MHMS	2										
		9.2.6 A legislation banning the use of all plastic bags to be in place by 2020 with bio-degradable bags as a replacement.	MECDM, AG Chambers, MoFT (Customs etc.), MCILI	Private Sector, Chinese Association	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.2 An Integrated Approach to Waste management and Pollution Control	All provinces have in place basic waste management and pollution control systems such as a designated landfill, a waste collection and disposal system and application of the fundamental 4Rs principles.	9.2.7 Formulate national guideline on the disposal and management of E-wastes with a section specific component on waste from solar lighting and other sources.	MMERE, MECDM,	AG, Private Sector, NGOs, MPGIS	1										
		9.2.9 Implement through phases and pilot the following waste thematic policies: a. The National Health Care Waste Policy b. National Implementation Plan on Persistent Organic Pollutants (POPs)	MHMS, MECDM, MAL	Provincial Government, Private Sector (IEL, Farmset- chemical importers)	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.3 Training and Research	Innovative waste management initiatives and actions that are based on accurate data and research with monitoring systems are led by qualified and skilled waste and pollution experts.	9.3.1 MECDM to ensure that data and information on waste and pollution are stored in a database available for public, planning and decision making.	MECDM,	MoFT (ICT), MPGIS, NGOS, MEHRD (Researchers), JICA, SPREP	1										
		9.3.2 Consult with NTU to ensure that at least four specialised scholarships for waste management and pollution control are offered at post-graduate level every year for the country.	MECDM, MEHRD (NTU)	SPREP, JICA, KOICA. Taiwan Embassy	1										
		9.3.3 SINU environment courses also include units on waste management and pollution control.	SINU, MECDM, CDC	Relevant Agencies, Australian Aid, New Zealand Aid, JICA, ADB, SPREP, UQ,	1										
		9.3.4 Collaborate with SINU and other institutions on research to find innovative ways to address waste management and pollution control in the country.	SINU, RTCs, Private Organisations	MECDM	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.3 Training and Research	Innovative waste management initiatives and actions that are based on accurate data and research with monitoring systems are led by qualified and skilled waste and pollution experts.	9.3.5 Organise national periodic training and capacity development activities for officers responsible for waste management and pollution control throughout the country.	MECDM	Australian Aid, New Zealand Aid, JICA, SPREP, NGOs	1										
		9.3.6 Ensure that appropriate officers from all provinces have an opportunity to undergo training related to waste and pollution provided by development partners such as JICA and other agencies.	MECDM	JICA, SPREP, MPGIS, Provincial Governments	1										
		9.3.7 MECDM organises training on waste management for provincial centres and communities.	MECDM, Provincial Government, MHMS, HCC	SPREP, JICA	1										
		9.3.8 MECDM to initiate the process to develop national expertise on ISO standards relating to pollution control and managing waste.	MECDM, MCILI, MHMS, MMERE	SPREP, Private Sector, HCC, Provincial Governments	3										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.3 Training and Research		9.3.9 Support and encourage local level innovative means to manage waste and pollution control.	MECDM, MPGIS	MHMS, NGOs, Communities, Development Partners	1										
9.4 Awareness, Communication and Education	An informed, aware and empowered population who support and participate in waste management and pollution control activities.	9.4.1 All provinces collaborate for bi-annual awareness events coordinated by the lead agencies.	MECDM, MPGIS, Provincial Government, MCT	Local Communities, NGOs, Women's Groups, Churches, Private Sector, Schools	1										
		9.4.2 Formulate awareness and communication materials relevant for the country and promoted at national, provincial and community level.	MECDM, HCC, MHMS, MMERE, MAL, MFMR	SPREP, JICA, Private Sector, NGOs	1										
		9.4.3 Waste and pollution management education integrated into current curricula at the primary, secondary and tertiary levels.	MECDM, MEHRD, CDC	NGOs, HCC, Civil Society	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.4 Awareness, Communication and Education	An informed, aware and empowered population who support and participate in waste management and pollution control activities.	9.4.4 MECDM to liaise with respective Education Authorities for a programmatic and standardised approach to waste and pollution management in all schools.	MECDM, Education Authorities	School Principals and Teachers. Students, School Cleaners, PTA	1										
		9.4.5 Liaise with donor, public and private entities to support media publications or public messages on waste and pollution management.	MECDM, Media (Island Sun, SIBC, Solomon Star), Telekom TV	SPREP, JICA, Donor Partners, UNDP	1										
		9.4.6 Formulate and implement a national communication strategy on waste and pollution management.	MECDM, MPGIS Provincial Government, JICA	Private Sector, NGOs, Churches	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.5 Public-private partnership	Public-private partnership initiatives are formally established and effectively tackling waste management and pollution control issue.	9.5.1 Public-private partnership is to be encouraged with a focus on the three critical areas, established and implemented in urban areas such as Honiara and other provincial centres	SI Chamber of Commerce, Indigenous Chamber of Commerce, Provincial Governments, MECDM	Private Sectors, Solomon Water, Solomon Power, Recycling Companies	1										
		9.5.2 SIG provides tax incentives for the first three years of a public-private partnership arrangements focusing on improving waste management and pollution control.	MoFT, MECDM	SI Chamber of Commerce, Indigenous Chamber of Commerce, Recycling Companies, Private Sector	2										
		9.5.3 Community partnership with public and private entities will be encouraged in each provinces and Honiara.	Provincial Government, HCC, Local Communities	MPGIS, Private Sector, Churches, NGOs, Women's Group	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.5 Public-private partnership	Public-private partnership initiatives are formally established and effectively tackling waste management and pollution conrol issue.	9.5.4 Document lessons learned from past and ongoing waste management projects such as the Mataniko project on public and community partnership on managing wastes.	MECDM	Local Communities, Provincial Governments, NGOs, Researchers	1										
		9.5.5 Organise a national waste management and pollution control forum bringing private sector, NGOs and government agencies.	MECDM	All Ministries, NGOs, Development partners, HCC	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.6 Infrastructure, Equipment and Cleaner Technology	Appropriate waste and pollution management infrastructure are in place, with industries shifting towards cleaner technologies and regulatory agencies fully equipped to monitor waste and pollution.	9.6.1 Support government, development partners and private sector investment in waste management infrastructures and facilities such as landfills, recycling plants, reuse and minimisation of wastes and cleaner technologies.	MECDM, HCC, MPGIS, MID	JICA, SPREP and Private Sector	1										
		9.6.2 MECDM and MID prepare a joint cabinet paper on landfill and disposal sites development for the nine provinces.	MECDM, MID	PMO, JICA, AG Chambers	1										
		9.6.3 Encourage and support all manufacturers to adhere to and shift towards cleaner technology with incentives provided.	MECDM, MoFT, SI Chamber of Commerce, Indigenous Chamber	UNDP, JICA, SPREP and other Development Partners, Private Sector	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.6 Infrastructure, Equipment and Cleaner Technology	Appropriate waste and pollution management infrastructure are in place, with industries shifting towards cleaner technologies and regulatory agencies fully equipped to monitor waste and pollution.	9.6.4 Support and recognise initiatives that reward 'green companies' annually with awards.	MECDM, SI Chamber of Commerce, Indigenous Chamber	Private Sector, MoFT.	2										
		9.6.5 All regulating agencies of waste and pollution management are fully equipped for monitoring of waste and pollution.	MECDM, MHMS, MAL, MMERE, MoFR, MPGIS, Provincial Government, HCC	MoFT, JICA, Private Sector	1										
		9.6.6 Invest in existing laboratories to ensure that they are fully certified to test for major forms of industrial waste, chemicals and pollutants.	MHMS – Public Health, MMERE-Geochem Lab, Private Sector, MAL, Solomon Waters, MID	MECDM, UNDP, USP, MFAET (Trade), MoFT	1										
		9.6.7 Strengthen the Fukuoka method at Ranadi landfill and extend similar and appropriate practises to provinces.	MECDM, MID, MPGIS, Provincial Governments HCC,	JICA, SPREP, Landowning Groups, MLHS	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.6 Infrastructure, Equipment and Cleaner Technology		9.6.8 Support communities with appropriate technology and tools to manage waste and pollution	MPGIS, MECDM, MHMS	Local communities, NGOs, Youth Groups, Women Groups, Private Sector, Schools, MEHRD	1										
9.7 Stakeholder Engagement and the Role of Women and Faith-based Organisations	Effective broad stakeholders' engagement and participation of women and the Church to address waste and pollution.	9.7.1 Ensure that all stakeholders and community members are fully informed of the importance of waste management and pollution control.	MECDM, MPGIS, Provincial Governments, HCC	Local Communities, Churches, NGOs, Youth Groups, Women Groups, Private Sector, Schools, MEHRD	1										
		9.7.2 Women's groups are to be engaged in innovative waste management activities for each provincial centres and communities.	MWYCFA, Women Church Groups, Provincial Government, MPGIS	MECDM, Local Communities, JICA, UNDP	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.7 Stakeholder Engagement and the Role of Women and Faith-based Organisations	Effective broad stakeholders' engagement and participation of women and the Church to address waste and pollution.	9.7.3 MECDM and lead agencies forge partnership with churches (SICA and SIFGA) to undertake waste management and pollution control awareness and integrate the concepts in their daily teaching and religious instructions.	MECDM, SICA, SIFGA	MPGIS, Provincial Governments, Local Communities, NGOs	1										
		9.7.4 Ensure that all environment NGOs and other civil society groups integrate waste and pollution as part of their work programme in the communities.	MECDM, DSE, NGOs, Civil Society	HCC, Provincial Government, Local Communities, SINU, SPREP, SPC, USP	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.8 Financial Instrument and Sustainability	Have in place predictable and long term financing mechanisms and economic instruments that secure the continuity and expansion of waste management and pollution control activities.	9.8.1 Explore the possibility to establish a trust fund for waste management and pollution control programmes managed by a steering committee, supported by an agreed and approved plan, and approved procurement system.	MECDM, MoFT, MDPAC	Solomon Water, Private Sector, JICA, SPREP	1										
		9.8.2 Improve consultation links among lead agencies to effectively allocate resources for waste and pollution control activities as part of their annual budgeting process.	MECDM, EHD-MHMS, HCC, Provincial Government, MPGIS, MCT, MDPAC, MoFT, MMERE	JICA, SPREP, UNDP, NGOs	1										
		9.8.3 Ensure financial audits are carried out on waste management and pollution control programmes to strengthen financial confidence and ensure sustainability.	Auditor General's Office, MoFT	MECDM, MHMS, MDPAC, Development Partners	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.8 Financial Instrument and Sustainability	Have in place predictable and long term financing mechanisms and economic instruments that secure the continuity and expansion of waste management and pollution control activities.	9.8.4 Review current HCC tax system and user pay policy to include people living in squatter settlements to enable the council to provide waste and pollution management services.	HCC, MLHS	UNHabitat, MECDM (CCD)	2										
		9.8.5 Solicit bureaucratic and political support to prioritise allocation of financial resources and budget towards waste and pollution control programmes for provincial government.	MECDM, PMO, MDPAC, MoFT, MPGIS	Provincial Governments, HCC, MHMS, MID	1										
		9.8.6 Increase funding support and allocation for existing 4R programmes and support household level 4R activities.	MECDM, PMO, MDPAC, MoFT, MPGIS	Provincial Governments, HCC, MHMS, MID, JICA, SPREP	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
9.8 Financial Instrument and Sustainability	Have in place predictable and long term financing mechanisms and economic instruments that secure the continuity and expansion of waste management and pollution control activities.	9.8.7 Undertake cost benefit analysis of options to implement polluter pay, extended producer/Importer responsibility, CDL programmes and tourism tax as long-term finance mechanism.	MECDM, MoFT, MCT	JICA, SPREP	1										
		9.8.8 Strengthen development partners' coordination, networking and partnership to solicit support for waste management and pollution control.	MECDM, MFET	Development Partners, MDPAC, MHMS	1										
		9.8.9 HCC to enforce existing bylaws on littering for Honiara city.	HCC	MECDM, MHMS	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.1 Waste and Pollution in the Aquatic and Marine Environment	Reduce all forms of waste and pollution in rivers, lagoons, lakes, waterways and the marine environment.	10.1.1 Formulate an integrated guideline on aquatic and marine waste and pollution management jointly monitored by SIMSA and MECDM.	SIMSA, MECDM, MFMR, Water Resource Division, EHD-MHMS	NGO's, Private Sector, WHO, SIPA, MCT, SINU, USP, MoFR, MMERE, Extractive Industries	1										
		10.1.2 Implement and enforce relevant regulations for waste management and pollution control in the marine environment.	SIMSA, MECDM, SIPA	Private Sector e.g. Shipping Companies, SPO	1										
		10.1.3 Review current *Marine Pollution Regulation 2012* where relevant to include broader marine waste management issues.	SIMSA	AG Chambers, MECDM	1										
		10.1.4 Develop specific guidelines for oil spillage, solid waste associated with international trade and domestic ships and ballast water.	SIMSA	MECDM, MFMR, MID, SIPA, Private Sector – Ship Owners	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.1 Waste and Pollution in the Aquatic and Marine Environment	Reduce all forms of waste and pollution in rivers, lagoons, lakes, waterways and the marine environment.	10.1.5 SIMSA to lead the development of a national plan to manage the removal of ship wreckages.	SIMSA	MECDM, MFMR, MID, SIPA, Private Sector – Ship Owners	1										
		10.1.6 Undertake an assessment to understand existing community governance on waste management and pollution control in the aquatic and marine environment.	MECDM, MFMR	NGOs, Local Communities, Provincial Governments	2										
		10.1.7 Enforce and implement requirements for waste and pollution management in accordance with the *Fisheries Management Act 2015*.	MFMR	NGOs e.g. World Fish, WWF, TNC, CBOs	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.1 Waste and Pollution in the Aquatic and Marine Environment	Reduce all forms of waste and pollution in rivers, lagoons, lakes, waterways and the marine environment.	10.1.8 SIWA to include in their strategic plan proper liquid waste treatment for urban centres and have in place proper liquid waste management systems to reduce pollution.	SIWA	MID, MECDM, HCC, MHMS	1										
		10.1.9 SIG and development partners to support SIWA led initiatives to invest in the appropriate liquid waste treatment facilities and infrastructure.	SIWA	Development Partners, MECDM, MID, MPGIS, HCC, Provincial Governments	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.2 Waste and Pollution Impact on the Tourism	The country is able to offer competitive advantage in tourism opportunities based on a clean and pollution-free environment, nature and cultural tourism.	10.2.1 Review town and country planning regulations to address design standards and guidelines for management of tourism activities that produce waste and pollution.	MCT, S IVB	MECDM, Private Sectors e.g. Hotels, National Tourist Operators Association	1										
		10.2.2 Ensure development of tourist-oriented infrastructure, national parks and recreation infrastructure adheres to strict building code regulations that are approved by planning board.	MID, MCT, Provincial Planning Boards, HCC Planning Board	MECDM, SIVB, Private Sectors	2										
		10.2.3 Promotion of waste management through organised festivals, medias and participatory clean ups.	MCT, SIVB, Provincial Governments, MHA	SIBC, FM Stations, Media – Island Sun, Solomon Star, Private Sector – Travel and Tour Operators. MPS, Alumni Association	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.2 Waste and Pollution Impact on Tourism	The country is able to offer competitive advantage in tourism opportunities based on a clean and pollution-free environment, nature and cultural tourism.	10.2.4 Establish networking and partnership with important stakeholders on tourism and waste.	SIVB, MCT, ICT	MECDM, MPGIS, Provincial Governments	1										
		10.2.5 Set up a system with recycling companies to collect recyclable items from resorts, hotels and from provincial tourism operators.	MECDM, Provincial Government, MPGIS	MCT, SIVB, Private Sector (Tourism Operators, Shipping Agents/Operators etc.) ,	1										
		10.2.6 Explore the feasibility of establishing a tourism tax system for travellers.	MCT, MoF	MECDM, Private sector, SIVB	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.3 Waste and Pollution in the Manufacturing, Extractive and Mining Industry	All industries adhere to legally binding waste and pollution guidelines and standards that are effectively monitored and enforced.	10.3.1 Mining-related policies and legislation are compatible to the requirements of the Environment Act and other environment related legislations and guidelines.	MMERE, MECDM	MLHS, Development Partners, MHMS, MCILI	1										
		10.3.2 Strengthen capacity of the ECD and EIA practitioners to thoroughly examine EIA studies for large-scale projects and provision for external reviewers before approvals are given.	MECDM	Private Sector, Provincial Government	1										
		10.3.4 Develop guidelines based on ISO standards for manufacturing industries supported by relevant legislations.	MECDM, MHMS MCILI	MMERE, Private Sector, Trade, Food Safety and Hygiene, Public Health Lab, HCC, Provincial Govts	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.3 Waste and Pollution in the Manufacturing, Extractive and Mining Industry	All industries adhere to legally binding waste and pollution guidelines and standards that are effectively monitored and enforced.	10.3.5 Make provisions in existing legislations to have specific agreements in the design phase with manufacturing, extraction or mining companies to procure appropriate technologies for treatment of waste.	MMERE, MECDM, MHMS, HCC, Provincial Government	Private Sector, SI Chamber of Commerce, Indigenous Chamber	2										
		10.3.6 All industries to have in place pollution control and emergency response plans in accordance with international safety standards as part of developer's EIA requirements.	ECD, NDMO, MHMS, Fire and Rescue Department-Police	Provincial Government, Private Sector	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.3 Waste and Pollution in the Manufacturing, Extractive and Mining Industry	All industries adhere to legally binding waste and pollution guidelines and standards that are effectively monitored and enforced.	10.3.7 Have a system in place to ensure that industries and mining companies provide environment monitoring and safeguards progress reports to the Government and relevant stakeholders for technical reviews.	MECDM, MMERE	MoF, MHMS, MPGIS, Provincial Governments	1										
		10.3.8 A requirement for developers and companies to develop waste and pollution standard operating procedures (SOP) on any discharge into the environment.	MECDM, MHMS	SI Chamber of Commerce, Indigenous Chamber, Private Sector, Provincial Government	1										
		10.3.9. Establish within ECD a compliance and enforcement unit with powers to prosecute where environment laws are not being adhered to.	ECD, MECDM	DPP, AG Chambers, RSIPF, Local Community, Provincial Government	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.4 Waste and Pollution on Isolated Islands and Communities	A system in place to manage waste and pollution on isolated islands and communities without compromising the integrity of the natural ecosystems and human wellbeing.	10.4.1 Waste impact assessments and research into suitable approaches to recover waste from remote islands and communities.	MECDM, MHMS, Provincial Govt	Local Communities, Churches, NGOs	1										
		10.4.2 Integrate waste management practices into existing franchise shipping schemes that enables return of non-biodegradable solid waste to urban landfills.	MECDM, MID, SIMSA	Local Communities NGOs, Provincial Governments, Churches, ADB	2										
		10.4.3 Increase budgetary allocation and recruitment of staff into ECD to carry out compliance monitoring on developments occurring in remote communities and islands.	MECDM ECD, MPS,	MDPAC, MoFT	1										
		10.4.4 Develop provincial ordinance to support existing legislation on waste management and pollution control.	Provincial Government	MPGIS, MDPAC, MECDM, AG Chambers	2										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.4 Waste and Pollution on Isolated Islands and Communities	A system in place to manage waste and pollution on isolated islands and communities without compromising the integrity of the natural ecosystems and human wellbeing.	10.4.5 Establish a mechanism (chiefs and church leaders) to support existing social structure at the provincial and rural level to report and manage waste and pollution.	MRD, MECDM, Provincial Governments	House of chiefs, Ward Development Committees, CDOs, Ward Development Officers, Churches, Local Communities, UNDP	2										
		10.4.6 Revive traditional knowledge and cultural practices to reduce waste through education and awareness.	MECDM, MCT	Local Communities, NGOs, House of Chiefs, Provincial Governments, Schools,	1										
		10.4.7 Strengthen community leadership though the participation of church leaders, chiefs, youths, women and NGOs on waste management and pollution control.	MECDM, MWYCFA	Church leaders, chiefs, youths, women and NGOs, Local Communities, House of Chiefs, Provincial Governments, Schools,	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.4 Waste and Pollution on Isolated Islands and Communities	A system in place to manage waste and pollution on isolated islands and communities without compromising the integrity of the natural ecosystems and human wellbeing.	10.4.8 Strengthen healthy village settings programmes through R-WASH and in partnership with NGOs, FBOs and CBOs.	R-WASH and MECDM	NGOs, FBOs and CBOs.	1										
		10.4.9 Develop community based solar panels and batteries waste management guidelines for Solomon Islands.	Energy Division, CCD, ECD, Provincial Governments	MRD, Private Sector (Dive Groups), Solomon Power,	1										
		10.4.10 Integrate waste management activities into marine protected areas and conservation programmes.	MECDM, MFMR	SILMA, NGOs,	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.5 Waste and Pollution impact on Health	Hospitals and clinics resourced with feasible technologies to improve their capacity to manage healthcare wastes.	10.5.1 Implement the healthcare waste management policy.	MHMS, WHO	MECDM, Churches, MPGIS, Provincial Governments	1										
		10.5.2 Procurement of technologies and consumables for segregation and storage of healthcare waste.	MHMS	Development Partners, CROP Agencies,	1										
		10.5.3 Development and delivery of a structured healthcare waste training programme to all hospital personnel as well as personnel from other stakeholder agencies (e.g. government health and environment agencies)	MHMS	MECDM, SPREP, Donor Partners, Regional Agencies	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.5 Waste and Pollution impact on Health	Hospitals and clinics resourced with feasible technologies to improve their capacity to manage healthcare wastes.	10.5.4 Repair and maintain treatment facilities for all hospitals and clinics in the country.	MHMS, MID	MECDM	1										
		10.5.5 Identify feasible locations for incinerators with considerations on the limited available spaces at hospitals and proximity to residential areas	MHMS, Hospitals	MECDM, MLHS, Provincial Governments, Landowning Groups	1										
		10.5.6 Construct healthcare storage facilities for all hospitals and clinics based on acceptable design standards.	MHMS, MID,	MHLS, Landowning Groups	1										
		10.5.7 Supply appropriate PPE, in particular overalls/protective clothing and eye protection and safety boots, for all waste handlers and train them on their use.	Responsible Agencies – Infection Control Unit	MHMS, Private Sector, MECDM, Lab our Division, MoFT	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.5 Waste and Pollution impact on Health	Hospitals and clinics resourced with feasible technologies to improve their capacity to manage healthcare wastes.	10.5.8 Ensure health inspectors are equipped to monitor and enforce compliance to the Environment Health Act and related legislations.	MHMS	MoFT, Labor Division,	1										
		10.5.9 Fully implement the R-WASH policy and programmes of actions for each of the provinces.	MHMS	MECDM, NGOs, Local Communities, Provincial Governments	1										
10.6 Waste and Pollution and Climate Change	Reduce emissions from waste and pollution and ensure that mitigation and adaptation technologies do not further contribute to waste and pollution.	10.6.1 Strengthen capacity of ECD and CCD to carry out monitoring, collection and archiving of waste and pollution data related to climate change.	MECDM	Provincial Governments, Development Partners- UNDP, MDPAC	1										
		10.6.2 Climate Change Division (CCD) to develop guidelines and standards for GHG emissions for the respective sectors, e.g. transport and manufacturing.	CCD and Customs, MID	RSIPF, Private Sector e.g. Solomon Power, MoFR	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.6 Waste and Pollution and Climate Change	Reduce emissions from waste and pollution and ensure that mitigation and adaptation technologies do not further contribute to waste and pollution.	10.6.3 Penalties for non-compliances to GHG emission requirements where appropriate.	MECDM, MID	RSIPF	2										
		10. 6.4 Develop technologies and infrastructures to minimise GHGs, including: 1.! Conversion of waste into useful products. 2.! Capture and use of gases (i.e. methane) through innovative sustainable technology.	CCD, Energy Division	ECD, Private Sector, Development Partners, Rural Training Centres	2										
		10. 6.5 Encourage extensive sustainable farming practices through the use of organic waste.	MAL and CCD	ECD, RTCs, UNDP, SPC, Private Sector, Provincial Government	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.6 Waste and Pollution and Climate Change	Reduce emissions from waste and pollution and ensure that mitigation and adaptation technologies do not further contribute to waste and pollution.	10. 6.6 Encourage renewable technology relevant to solid and liquid waste.	CCD	ECD, Development Partners, RTCs, Provincial Governments	2										
		10.6.7 Establish a national level mechanism to collect and recover waste solar panels, batteries and other renewable energy technology from becoming waste and pollution into the environment throughout the country.	CCD, Energy Division, ECD	Private Sector, Local Communities, Constituency office, MRD											
		10.6.8 Ecosystem-based adaptation approach is promoted to strengthen community and natural resources resilience to climate change impacts.	CCE, ECD, SPREP Solomon Office	Provincial Governments, Local Communities, NGOs	1										

Focus Area	Outcome	Strategic Actions	Lead Agencies	Partners	Priority	Timeframe									
						2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
10.7 Waste and Pollution from Natural Disasters	Disaster response plans have in place functioning processes and procedures to address waste and pollution during natural disasters.	10.7.1 Develop a waste management and pollution guideline for disasters.	NDMO, ECD (MECDM)	Development Partners	1										
		10. 7.2 Ensure developers and companies have emergency response plans in accordance with national and international safety standards to deal with wastes and pollution.	NDMO, ECD (MECDM)	Development Partners, MCILI	1										
		10. 7.3 Strengthen capacity and provide the technologies needed by ECD and NDMO officers to manage waste and pollution control activities for disasters.	ECD, NDMO (MECDM)	MID, MoFT, Private Sector, NGOs	1										
	Disaster response plans have in place functioning processes and procedures to address waste and pollution during natural disasters.	10. 7.4 Ensure budgets for post-disaster activities capture waste management and pollution control activities and mainstream waste management and pollution control into disaster response plans.	MECDM	MoFT, MDPAC, Development Partners, UNDP, SPREP	1										

Appendix

Annex 1: International conventions, agreements and protocols to which Solomon Islands is a party.

Multilateral Environment Agreement	Status	Purpose/Aim	Agency Responsible	Relevance to waste and pollution
Regional MEAs				
i. Pollution Protocol for Dumping	Ratified 10/9/98	Prevention of pollution of the South Pacific region by dumping.[1]	Marine Div/MECDM	Relevant where chemicals are used and have transboundary effects with neighbouring countries
ii. Pollution Protocol for Emergencies	Ratified 10/9/98	Cooperation in combating pollution emergencies in the South Pacific region.[2]	Marine Div/MECDM Project: National Pollution Prevention Plan	Applicable for emergencies
iii. Natural Resources and Environment of South Pacific Region (SPREP Convention)	Ratified 10/9/98	Protection of natural resources and environment of the South Pacific Region in terms of management and development of the marine and coastal environment in the South Pacific Region.[3]	MECDM	Relevant

[1] Pollution Protocol for Dumping
[2] Pollution Protocol for Emergencies
[3] SPREP Convention

iv. Waigani Convention on Hazardous and Radioactive Wastes 1995	Ratified 7/10/1998	Bans the importation of hazardous and radioactive wastes into Forum Island countries and to control the trans-boundary movement and management of hazardous wastes within the South Pacific region.[4]	MECDM	Any import of hazardous material will require permits to be issued by MECDM. This is a regional version of the Basel Convention.
International MEAs				
Chemicals, Wastes and Pollution				
i. Liability for Oil Pollution Damage	Ratified	Strict liability of ship owner for pollution damage to a coastal state within a certain amount.[5]	Marine Division	Important for marine pollution
ii. Marine Pollution Convention (London)	Ratified	Prevention of marine pollution by dumping of wastes and other matter.[6]	MECDM/Foreign Affairs	This is applicable where the marine environment is being used as a dumping site for wastes.
iii. United Nations Convention to Combat Desertification (UNCCD)	Acceded 16/4/1999	Agreement to combat desertification and mitigate the effects of drought in countries experiencing drought or desertification.[7]	MAL/MECDM Project: National Action Plan on Land Degradation and Drought	Applicable where land is being converted and degraded as result of pollution and wastes
iv. POPs Convention (Stockholm)	Acceded 28.7/2004	Protection of human health and environment from persistent organic pollutants (POPs).[8]	MECDM/Environmental Health Div. Project: National Implementation Plan	Applicable if POP chemicals disposed as waste.
Biodiversity				
i. CITES	Instrument of ratification	Regulations and restriction	MECDM	

[4]Waigani Convention on Hazardous & Radioactive Wastes 1995
[5]Liability for Oil Pollution Damage
[6]Marine Pollution Convention (London)
[7]United Nations Convention to Combat Desertification (UNCCD)
[8]POPs Convention (Stockholm)

	being prepared	of trade in wild animals and plants through a certification system of imports and exports.[9]		Impact of waste and pollution on wildlife
ii. World Heritage Convention	Acceded 10/6/1992	Protection of sites of Outstanding Universal Values. Solomon Islands currently has East Rennell Island as a World Heritage site.[10]	National Museum/MECDM	NA
iii. UN Convention on Biological Diversity (UNCBD)	Ratified 3/10/1995	Conserve biological diversity through the sustainable use of its components and the fair and equitable sharing of the benefits arising out of utilising genetic resources.[11]	MECDM Project: NCSA; National Biodiversity Strategy and Action Plan; International Waters Program; 3rd National Report	Very relevant for the protection of biological diversity from the threats of waste and pollution
iv. Cartegena Protocol to the UNCBD	Acceded 26/10/2004	Protection of human health and genetic diversity.[12]	MECMD	NA
v. Coral Triangle Initiative (CTI) Agreement		Protection and conservation of marine resources within the Coral Triangle region.[13]		Applicable if impacts have consequence for the coastal environment.
Climate Change Related				
United Nations Framework Convention on Climate Change (UNFCCC)	Ratified 28/12/1994	Set an overall framework for intergovernmental efforts to tackle the challenges posed by climate change.[14]	MECDM	The impact of climate change is very broad and therefore specific measures must be defined on how to manage waste relative to climate change.

[9]Convention on the International Trade of Illegal and Endangered Species (CITIES)
[10]World Heritage Convention
[11]UN Convention on Biological Diversity (UNCBD)
[12]Cartegena Protocol to the UNCBD
[13]Coral Triangle Initiative (CTI) Agreement
[14]United Nations Framework Convention on Climate Change

Kyoto Protocol	Ratified 13/03/2003	Reduce greenhouse gases especially carbon dioxide for the 39 industrial/ developed countries by an average pf 5.2% by 2012.[15]	MECDM	Applicable for emissions from industries and transport sector.
Montreal Protocol	Acceded 17/06/1993	Allows phase-out of substances that deplete the ozone layer according to a fixed schedule.[16]	Energy Division	NA
Ozone layer Convention	Acceded 17/06/1993	-Protection of the ozone layer through intergovernmental cooperation on research.[17] - Observation of ozone layer - Monitoring of CFC		NA

[15]Kyoto Protocol
[16]Montreal Protocol
[17]Ozone layer Convention

Solomon Islands Government 2017