



PacWastePlus Waste Legislative Review: Regional Solutions Assessment



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Executive Summary

There is presently no single international organisation or convention that establishes rules of general application for waste management, potentially creating conflicts and gaps and making it difficult to take a comprehensive global approach to the issue of waste management.

The existing global framework has many limitations, including:

- (i) inattention to issues of waste generation and minimisation;
- (ii) lack of controls on land-based waste management;
- (iii) lack of specific support for re-use, recycling, and recovery operations; and
- (iv) limited inclusion of modern waste management concepts, such as the circular economy, cleaner production, and extended producer responsibility.

Several Multilateral Environmental Agreements (MEAs) have been developed to address the impacts of poor waste management, and the impacts caused by the transboundary movement of waste. All countries participating in the PacWastePlus programme are a member to at least one of the Waste focussed MEAs (Basel, Stockholm, Rotterdam, Minamata and Waigani Conventions) with the Stockholm Convention being the most extensively implemented throughout the region. Assessments of the waste management and environmental management systems of countries suggest that membership to these MEAs is positively correlated with better performing waste legislation and enhanced implementation, perhaps due to the access to the capacity-building resources that membership of these conventions enables.

The barriers that exist to effective waste management in the Pacific and Timor-Leste include the lack of opportunities for the export of recyclable and other wastes (leading to stockpiling in countries), lack of support to develop re-use and recovery operations to reduce pressure on limited land resources, gaps in capacity for drafting, carrying out and enforcing waste management laws effectively.

This report considers the relevant requirements applying to waste management under international and regional conventions and non-binding 'soft law' instruments, their alignment to the needs of the PacWastePlus participating countries, and common gaps and challenges that arise that might be the basis for developing regionally harmonised approaches.

Several options for regionally led approaches to address the gaps and opportunities for a regional legislative framework are identified in the report, including the development of technical guidance, model laws and compliance/enforcement training to build a foundation of skills, knowledge, and capacity for waste governance across the region.

These more achievable steps are likely to be required before initiating more ambitious efforts to realise regional agreements (such as: supporting the export of recyclables off-island to overseas markets; establishing regional waste management facilities that can provide a hub for recycling or waste re-use and recovery; or accomplishing plans for modular waste-to-energy systems operated across several countries or by a central cooperative with one country acting as a host).

About this Report

Sources of Information



Publicly available online resources about waste management laws in the participating countries (e.g. PacLII, EcoLEX, SPREP, InforMEA and FAOLEX, as well as the websites of government departments and other agencies administering waste and other environmental laws in the participating countries)



Additional information on legislation or pipeline initiatives identified by country contacts



Qualitative information derived from interviews (remote and face-to-face) with country stakeholders



An online survey sent to country participants requesting information on waste laws in their countries and their implementation, administration, and enforcement

Interviews were conducted remotely with participants from government departments, agencies and contractors addressing issues of environmental protection, waste management, legal matters, as well as the private sector and NGOs.

Additional interviews were conducted with external consultants and SPREP staff working on specific programs relevant to the Waste Legislative Review.

The report focuses on the international and regional governance of waste management and its alignment to the situation of the participating countries. It is intended to complement the National Options Papers for Waste Legislation by suggesting opportunities for regionally harmonised approaches to address common gaps in participating countries' waste management legal and institutional infrastructure, identified at the national level.

Both the *National Waste Legislation Stocktake Country Reports* and the *Assessment of Legislative Frameworks Governing Waste Management Country Reports* are available for download from the PacWastePlus website - <https://www.sprep.org/pacwaste-plus>



Available online sources do not always contain the most up-to-date legislation or may be incomplete. Where possible, the UoM team drew on contacts with parliamentary libraries in the participating countries to source more recent legislation. However, it is not possible to say with certainty that all relevant legislation, or the most current versions, were identified in the desktop review.

For identifying proposed legislation, the UoM team relied on an online survey sent out to 110 in-country contacts in the participating countries (with a 21% response rate), as well as interviews with in-country contacts in the Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, the Republic of the Marshall Islands, Samoa, the Solomon Islands, Timor-Leste, Tonga, Tuvalu, and Vanuatu.

Introduction

This assessment has been prepared by the *Secretariat of the Pacific Regional Environment Programme's* (SPREP) European Union-funded PacWastePlus programme (PacWastePlus or 'Programme'), drawing upon reporting developed by the University of Melbourne (UoM) on behalf of PacWastePlus for that programme's *Waste Legislative Review* project. The UoM team reviewed legislation relevant to waste management in 14 Pacific region countries and Timor-Leste. Separate assessments are provided for each of the PacWastePlus participating countries.

This report addresses the following topics:

- a. **An assessment of the relevant global and regional legal frameworks and conventions related to waste management.** This assessment encompasses the principal global multilateral environmental agreements (MEAs) relevant for chemicals and waste management, including the Basel, Stockholm, Rotterdam, and Minamata Conventions, as well as the Pacific regional convention on hazardous wastes, the Waigani Convention. MEAs are legally binding agreements between States or International Organisations that have responsibilities for managing elements of the natural environment. The Chemicals and Waste focused MEAs address procedures and actions related to the transboundary movements of materials such as hazardous waste, radioactive waste, and persistent organic pollutants (to name a few). Global legal instruments on waste management are supplemented by regional conventions containing more specific requirements for the countries to which they apply. In the Pacific region, regional agreements govern the storage and disposal, as well as the transboundary movement, of hazardous wastes. Soft law instruments applicable to hazardous chemicals and wastes are non-binding instruments made by a range of international institutions, to guide countries on the handling, use, transport, trade and disposal of hazardous substances and wastes.
- b. **Consideration of the alignment of global and regional conventions and frameworks to the situation of participating countries.** This assessment includes an analysis of whether countries are presently party to all relevant MEAs and gaps in coverage that could be resolved to strengthen waste governance outcomes for participating countries. It should be read in conjunction with the specific Assessment of Legislative Frameworks Governing Waste Management country reports, which provide further details regarding the participating countries' membership of the five principal waste related MEAs, as well as their designated national authorities and relevant implementing national legislation.
- c. **Assessment of options for regionally harmonised legal approaches to address common gaps identified at a national level for participating countries.** This assessment encompasses options for facilitating movement of wastes, particularly recyclables, 'off-island' to overseas markets to prevent local stockpiling of these wastes, and for establishing hubs within the region to scale-up activities for recycling and waste-to-energy generation. It also considers other initiatives that might help to build technical knowledge and capacity, improve access to laws and support consistent legal development and implementation across the Pacific region.



This report does not include an assessment of other MEAs that relate to environmental protection more generally, although many of these have incidental relevance to waste management. For example, the treaties of the United Nations climate regime concern greenhouse gas emissions, such as methane, which may be released from waste management activities. Marine pollution agreements, such as the Ballast Water Management Convention, include provisions on the discharge of ballast waste and sediments from ships. Implementation of the Convention on Biological Diversity, and the World Heritage Convention, can also intersect with waste management issues.



SECTION 1: Global and Regional Frameworks and Conventions

Global and Regional Frameworks and Conventions Summary

At a general level, Goal 12 of the 2015 United Nations Sustainable Development Goals (SDGs) calls for ensuring sustainable consumption and production patterns, and includes a specific target to achieve *‘the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment’* (target 12.4), by 2020.

The key components of the global and regional governance system for waste include:

- a. **Global multilateral environmental agreements (MEAs) applicable to hazardous chemicals and wastes.** International instruments relating to hazardous chemicals generally adopt a lifecycle approach that tracks substances from production to disposal. These instruments may contain provisions on chemical wastes and their disposal, although these requirements are secondary to the instruments’ primary focus on chemicals management. Waste-focused conventions, on the other hand, mainly concern disposal, transboundary movement, and trade in wastes.
- b. **Regional agreements, including those in the Pacific, applicable to waste management.** Global legal instruments on waste management are supplemented by regional conventions containing more specific requirements for the countries to which they apply. In the Pacific region, regional agreements govern the storage and disposal, as well as the transboundary movement, of hazardous wastes.
- c. **Soft law instruments applicable to hazardous chemicals and wastes.** These legally non-binding instruments have been made by a range of international institutions and other bodies, including the Food and Agriculture Organization (FAO), UNEP, and the Organisation for Economic Cooperation and Development (OECD). They provide guidance to countries on the handling, use, transport, trade and disposal of hazardous substances and wastes. There are also a large number of policy documents and reports that have been produced at a regional level relevant to wastes, with many commissioned by SPREP.

MEAs on Hazardous Chemicals and Waste Management

Several global MEAs are relevant for different facets of the management of wastes. The principal global MEA relevant for waste management is the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes (‘Basel Convention’). The Basel Convention governs international trade and standards for disposal of both hazardous wastes and municipal wastes, including an amendment specifically addressing plastic wastes adopted in May 2019 and another amendment introducing a ban on certain exports to developing countries that came into effect in December 2019.

Three other global MEAs govern different categories of hazardous substances that can give rise to hazardous wastes:

- The 2001 **Stockholm Convention** on Persistent Organic Pollutants (POPs) (‘Stockholm Convention’), which regulates production, use, release and trade of a specific category of hazardous chemicals – POPs – listed in Annexes to the Convention;
- The 1998 **Rotterdam Convention** on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (‘Rotterdam Convention’), which establishes procedures for international shipments of hazardous chemicals and pesticides; and
- The 2013 **Minamata Convention** on Mercury (‘Minamata Convention’), which establishes a comprehensive regulatory system to control mercury throughout its lifecycle, including reductions across various products, processes, and industries where mercury is used, released, or emitted.

There is no common definition of waste employed across different global MEAs and other international instruments. The Basel Convention (as the core waste management convention) defines wastes as *‘substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law’* (Art. 2). This definition can be problematic as it suggests that a substance or object is not ‘waste’ if it is not destined for disposal – for example, where it is instead intended to be re-used, recycled, or recovered.

Wastes are often categorised under international instruments according to two characteristics: (i) their source (e.g. municipal or industrial); and (ii) their hazardous qualities (e.g. non-hazardous, hazardous, ultra-hazardous). In general, global MEAs have focused on hazardous and ultra-hazardous wastes from industrial sources, although this situation is evolving with greater attention to non-hazardous waste issues like marine litter and plastic pollution.

The following sections explain the requirements of these global MEAs and their relevance for waste management.

Basel Convention

Ten of the PacWastePlus participating countries are presently party to the Basel Convention: the Cook Islands, the Federated States of Micronesia, Kiribati, the Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, Tonga and Vanuatu.

The Basel Convention establishes rules designed to regulate trade in wastes rather than to prohibit such trade. It imposes general obligations on parties to ensure that transboundary movements of wastes are reduced to a minimum consistent with environmentally sound and efficient management (Art. 4(2)(a)). It reflects the approach that wastes should, as far as possible, be disposed of in the country in which they are generated (known as the 'proximity principle' in Art. 4(2)(b)). However, the principal focus of the Basel Convention is on governing the movement of wastes across international borders rather than on waste prevention and reduction.

Main requirements

The heart of the Basel Convention is its prior informed consent procedure set out in Articles 4 and 6. Parties may prohibit the import of hazardous or other wastes for disposal and must inform other parties of their decision through notifications to the Basel Convention's administrative body, known as the Secretariat. Where a party has not prohibited particular imports, it (and any 'transit states', through which the shipment passes that are party to the Convention) must consent in writing to a specific shipment before that shipment can take place. Importing states or transit states that are party to the Basel Convention may require waste shipments to be covered by insurance, bonds, or other guarantees.

Parties must not allow exports to other parties where they have reason to believe that the wastes in question will not be managed in an environmentally sound manner and should prevent imports into their own territories where they have this concern. In order to ensure that wastes are disposed of in accordance with principles of environmentally sound management (ESM), the parties must take all practical steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment. The Basel Convention parties have developed technical guidelines on ESM of particular categories of waste, such as e-wastes, mercury, POPs, and plastic wastes.

Hazardous and other wastes governed by the Basel Convention cannot be exported or imported from non-parties (although see the provision for agreements and arrangements between parties and non-parties under Article 11 of the Basel Convention, discussed below). The participating countries that are not presently party to the Basel Convention are Fiji, Niue, the Solomon Islands, Timor-Leste, and Tuvalu. Any traffic of waste that contravenes the notification or consent requirements, fails to conform with documentation requirements, or results in deliberate disposal in contravention of the Basel Convention, is considered illegal and criminal.

Types of wastes covered

The wastes to which the Basel Convention applies are 'hazardous wastes' and 'other wastes'. Radioactive wastes that 'are subject to other international control systems', as well as wastes discharged from ships where such discharges are 'covered by another international instrument', are specifically excluded from the scope of the Basel Convention (Art. 1(3) and (4)).

Hazardous wastes are wastes that belong to one of the categories of waste streams contained in Annex I of the Basel Convention, unless they do not possess any of the characteristics contained in Annex III (e.g. being explosive, toxic, corrosive, poisonous, flammable etc). Waste streams listed in Annex I are relevant for several of the priority waste streams, including healthcare wastes, asbestos and e-wastes.

Hazardous wastes covered by the Basel Convention also include any wastes that are defined as, or considered to be, hazardous wastes by the domestic legislation of an importing, exporting or transit party. Under Article 3 of the Convention, parties are required to inform and update the Secretariat regarding any such waste definitions, and any requirements applicable to transboundary movements of these wastes.

Other wastes for the purposes of the Basel Convention are wastes that belong to any category listed in Annex II and which are subject to transboundary movement. Annex II includes wastes collected from households, as well as residues arising from the incineration of household wastes. Priority waste streams that form part of household wastes and which are destined for export overseas would fall into this 'other wastes' category. This might include, for example, some types of e-wastes and bulky wastes, plastics, and other recyclables where these are collected as part of municipal/household wastes and destined for import/export.

In May 2019, the Basel Convention parties adopted an amendment to the Convention dealing specifically with plastic wastes (known as the 'Norwegian amendment') that will become effective from 1 January 2021. The Norwegian amendment adds plastic waste, including mixtures of such waste, to the list of 'other wastes' covered by Annex II. This brings transboundary movements of such non-hazardous plastic wastes that are not recyclable or difficult to recycle within the scope of the Basel Convention. It should be noted that plastic wastes that are part of household waste streams were already covered by the Basel Convention. Plastic wastes that would otherwise be classed as hazardous wastes e.g. due to contamination of some form, continue to be treated as hazardous wastes. Plastic wastes excluded from the 'other wastes' category under the 2019 Norwegian amendment are various types of 'clean' plastic wastes destined for recycling in an environmentally sound manner. This would include, for example, uncontaminated shredded, post-industrial plastic wastes or PET bottles that have been appropriately cleansed and processed for export. Shipments of clean plastic wastes destined for environmentally sound recycling are exempt from the Basel Convention's prior informed consent procedures.

Parties are permitted to enter bilateral, regional, or multilateral agreements or arrangements regarding transboundary movements of wastes with other parties or non-parties, provided these do not derogate from the ESM of wastes required by the Convention (Art. 11). The Basel Convention does not affect transboundary movements taking place entirely among countries participating in such agreements or arrangements, which must be notified to the Secretariat. This is subject to the proviso that the provisions of that agreement or arrangement are 'not less environmentally sound' than the requirements of the Basel Convention itself. The Waigani Convention is an example of a regional arrangement that meets the requirements of Article 11 of the Basel Convention. Shipments of hazardous and other wastes covered by the Basel Convention among Waigani Convention parties are thus not affected by the provisions of the Basel Convention.

The Basel Convention discourages exports of hazardous and other covered wastes, except in limited circumstances. Such exports should be restricted to situations where: (a) the exporting state does not have the necessary capacity, facilities, or suitable sites to dispose of wastes in an environmentally sound manner, or (b) the wastes concerned are required as a raw material for recycling or recovery industries in the importing state. Based on the assessments undertaken by the UoM team, and supporting interview data, most participating countries would meet this first condition i.e. a lack of capacity, facilities or suitable sites to dispose of wastes in an environmentally sound manner.

Wastes intended for recovery, recycling, reclamation or re-use

The Basel Convention applies to wastes that 'are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law'. Annex IV of the Basel Convention, entitled 'Disposal Operations,' elaborates what is meant by 'disposal' for the purposes of the convention.

Annex IV lists operations which 'do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses,' such as depositing wastes in landfill. Section B of Annex IV, by contrast, lists 'operations which may lead to resource recovery, recycling reclamation, direct re-use or alternative uses'. It provides for several such operations, including waste-to-energy and used oil re-refining. The full list of operations included in Section B of Annex IV is set out in Table 1.

Table 1: Operations for recovery, recycling, reclamation, re-use

Number	Specified operations
R1	Use as a fuel (other than in direct incineration) or other means to generate energy
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation of other inorganic materials
R6	Regeneration of acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysts
R9	Used oil re-refining or other reuses of previously used oil
R10	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R1-R10
R12	Exchange of wastes for submission to any of the operations numbered R1-R11
R13	Accumulation of material intended for any operation in Section B

Annex IV provides that Section B ‘encompasses all such operations with respect to materials legally defined as or considered to be hazardous wastes and which otherwise would have been destined for operations included in Section A’. On this basis, shipments of materials that qualify as hazardous wastes and are designated for operations listed in Section B of Annex IV are covered by the Basel Convention’s prior informed consent procedures. The Norwegian amendment covering plastic wastes also provides a specific exemption for certain clean plastic wastes destined for recycling.

Basel Ban amendment

Beyond the provisions of the Basel Convention itself, there are additional provisions found in an amendment known as the Basel Ban, which recently entered into force on 5 December 2019. The Basel Ban amendment addresses the concern that transboundary movements of hazardous wastes, particularly to developing country parties, may not result in environmentally safe management and safe disposal of those wastes. Reports published by non-governmental organisations, such as the Basel Action Network, show significant rates of ‘waste mismanagement’ in several developing countries, particularly in south-east Asia. In the Pacific region, it seems that the opposite problem arises in that most countries’ economies will not support *in situ* environmentally safe management, giving rise to a need to export these wastes.

The Basel Ban amendment bans *all* transboundary movements of *hazardous* wastes (both those destined for final disposal and for recovery, recycling etc operations, as listed in Table 1 above) from wealthy countries, mostly OECD members listed in a new Annex VII of the Convention, to states not on that list. The Basel Ban amendment has attracted criticism on the basis that it might be seen to limit the ability of developing country parties to choose for themselves what types of waste they want to import and may also limit opportunities for recycling of hazardous wastes (including, for instance, contaminated plastic wastes, e-waste, and waste oils). At present, out of the participating countries, only the Cook Islands is party to the Basel Ban.

Stockholm Convention

All the PacWastePlus participating countries, except for Timor-Leste, are presently party to the Stockholm Convention.

The Stockholm Convention establishes international rules for Persistent Organic Pollutants (POPs), organic chemicals that remain in the environment, accumulate in organisms up the food chain and travel long distances in the atmosphere and in water. Well-known POPs include pesticides like DDT, as well as hazardous chemicals, such as polychlorinated biphenyls (PCBs), dioxins and furans.

The Stockholm Convention is primarily concerned with limiting the use, production and release of POPs listed under its Annexes (Art. 3-5). In the case of POPs listed in Annex A (26 substances, including PCBs) the aim is elimination of their production and use. There are specific exemptions for use and production for which parties apply and register. For those POPs listed in Annex B (2 substances, including DDT), the Stockholm Convention aims to restrict their production and use by parties, subject to any applicable acceptable purposes and/or specific exemptions. Parties must also take measures to reduce unintentional releases of POPs (e.g. resulting from burning of wastes) listed in Annex C (7 substances, including PCBs, dioxins and furans), with the goal of continuing minimisation and, where feasible, ultimate elimination.

Imports by parties of POPs listed in Annexes A and B are permitted only for an approved use or purpose, or for the purposes of environmentally sound disposal. Equally, exports of Annex A/B-listed POPs by a party may only be undertaken: (a) to another party permitted to use that chemical; (b) to a non-party that has provided an annual certification to the exporting party; or (c) for the purposes of environmentally sound disposal.

The most relevant provisions of the Stockholm Convention from a waste management perspective are those found in Article 6. Article 6 deals with steps taken by parties to limit releases of POPs from stockpiles and wastes, including waste products and articles that consist of, contain, or are contaminated with a chemical listed in Annex A, B or C of the Stockholm Convention. Stockpiles may become wastes if the POPs they contain are no longer allowed to be used according to any specific exemption specified in Annex A or any specific exemption or acceptable purpose specified in Annex B, or where they are not able to be exported for the purposes of environmentally sound disposal.

Obligations of parties in respect of such wastes include:

- a. Developing appropriate strategies for identifying them;
- b. Taking appropriate measures so that these wastes are handled, collected, transported and stored in an environmentally sound manner and disposed of in such a way either that the POP content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of POPs, or in an environmentally sound manner if destruction or irreversible transformation does not represent the environmentally preferable option or the POP content is low;
- c. Taking appropriate measures so that these wastes are not permitted to be subjected to disposal operations that may lead to recovery, recycling, reclamation, direct reuse or alternative uses of POPs;
- d. Taking appropriate measures so that these wastes are not transported across international boundaries without considering relevant international rules, standards, and guidelines; and
- e. Endeavouring to develop appropriate strategies for identifying sites contaminated by listed POPs and for remediation of those sites, if undertaken, to be performed in an environmentally sound manner.

Technical guidelines for the environmentally safe management of POPs wastes have been developed under the Basel Convention, as noted above, and Stockholm parties may take these into account when implementing their obligations under Article 6 of the Stockholm Convention.

Several of the participating countries have limited long-term management of POPs with stockpiling being a problem, along with the cost of exporting these substances for environmentally sound treatment and disposal.

Rotterdam Convention

Of the PacWastePlus participating countries, only five are presently party to the Rotterdam Convention: the Cook Islands, the Marshall Islands, Samoa, Tonga and Vanuatu.

The Rotterdam Convention establishes a legally binding prior informed consent regime for international shipments of hazardous chemicals and pesticides traded in international commerce. The Convention specifically does not apply to wastes (Art. 3(2)). However, the Rotterdam Convention provides a mechanism for parties to control the import and export of listed chemicals in order to limit the health and environmental risks they pose, including if these chemicals were to contaminate waste streams or themselves become wastes.

The chemicals covered by the Rotterdam Convention, listed in Annex III, include 35 pesticides, 16 industrial chemicals and 1 chemical in both the pesticide and industrial chemical categories. The listed industrial chemicals include various forms of asbestos, as well as PCBs and certain lead-containing chemicals.

The Rotterdam Convention requires the formal, written consent of the importing party before export may take place (Art. 10-11). In response to a notification relayed from the Convention Secretariat, an importing party may decide to allow importation of the substance, to ban importation, or to allow importation subject to specified conditions. Alternatively, importing parties may provide an interim response.

The Rotterdam Convention also contains provisions for exchange of information concerning potentially hazardous chemicals (Art. 14) and establishes channels for providing technical assistance to developing economies to manage toxic industrial chemicals and pesticides (Art. 16).

Minamata Convention

The 2013 Minamata Mercury Convention (in force from 16 August 2019) is the most recent of the waste related MEAs. Presently, seven of the participating countries are party to the Minamata Convention (namely, Kiribati, the Marshall Islands, Palau, Samoa, Tonga, Tuvalu, and Vanuatu), with an additional three (the Cook Islands, Niue, and Papua New Guinea) conducting initial assessments that could pave the way for them to join the MEA in the future.

Compared with the other global MEAs relevant for waste management, the Minamata Convention takes an integrated, lifecycle-based approach. It addresses hazardous substances containing only one element, mercury, but in a comprehensive manner specifically crafted to address those risks.

Two elements of the Minamata Convention of particular relevance for Pacific region parties are:

- Provisions on the phase-out and eventual elimination of certain 'mercury-added products' listed in Annex A, Part I (Art. 4). These products include batteries, switches, lights, cosmetics, pesticides and measuring devices. The manufacture import and export of these products is not allowed after specified phase-out dates, except where party has a registered exemption under Article 6.
- Restrictions on mercury-containing dental amalgam, which is a significant source of environmental mercury releases when flushed down drains or through the cremation of human remains. In respect of dental amalgam, parties commit to take measures (selecting at least two from a list of nine options) to encourage the phasing down of mercury in these products.

The Minamata Convention's restrictions on the use of mercury and mercury-containing compounds in certain manufacturing processes, as well as its controls on releases of atmospheric mercury emissions (e.g. from coal-fired power stations) are less relevant for Pacific region countries given the absence of these industries in the region. Some countries, however, such as Papua New Guinea and the Solomon Islands, have gold mining activities which would be covered by the Minamata Convention's provisions regarding environmental releases of mercury and contaminated sites.

Article 11 of the Minamata Convention deals specifically with mercury wastes. Mercury wastes covered by the Convention are defined as substances or objects consisting of, containing, or contaminated with mercury or mercury compounds above certain thresholds to be defined by the Conference of the Parties, where these substances or objects are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of a party's national law or the Minamata Convention.

Parties are required to take appropriate measures so that mercury wastes are managed in an environmentally sound manner consistent with the Conventions guidelines. Parties must also ensure mercury wastes are only recovered, recycled, reclaimed, or directly re-used for a use allowed to that party under the Minamata Convention, or for environmentally sound disposal.

For countries which are also party to the Basel Convention, they must take appropriate measures to ensure mercury wastes are not subject to transboundary movement except for the purpose of environmentally sound disposal.

The Minamata Convention contains a financial mechanism (Art. 13), as well as provisions on capacity-building and technical assistance (Art. 14). Small island developing states are identified as a particular group of parties to whom cooperative efforts for such assistance and capacity-building should be directed.

Other MEAs relevant to hazardous substances and wastes

Several other global MEAs govern specific categories of hazardous substances or regulate aspects of waste disposal. These include:

- a. The 1987 **Montreal Protocol** on Substances that Deplete the Ozone Layer ('Montreal Protocol'), which regulates production and consumption of ozone depleting substances. All participating countries are party to this treaty.
- b. The 1972 **London Dumping Convention** and its 1996 Protocol that prohibit the dumping and incineration of wastes at sea. According to ECOLEX, 6 participating countries are party to the 1972 Convention (Kiribati, Nauru, Papua New Guinea, the Solomon Islands, Tonga, and Vanuatu) and 3 are party to the 1996 Protocol (the Marshall Islands, Tonga, and Vanuatu).
- c. The 1997 **Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management** ('Joint Convention'), which applies to radioactive wastes resulting from civilian nuclear reactors and certain civilian applications. The latter covers radioisotopes used in medical diagnosis and treatment. None of the participating countries are currently party to this treaty.
- d. The 2009 **Hong Kong International Convention** for the Safe and Environmentally Sound Recycling of Ships ('Ship Recycling Convention'), which establishes a comprehensive regime for managing and disposing of wastes generated from activities for the recycling of ships. This treaty is yet to enter into force.

Regional conventions for waste management

In addition to the global MEAs considered in the previous section, a number of regions have specific conventions relevant to waste management.

In the Pacific region, the most significant convention is the **1995 Waigani Convention** to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement of Hazardous Wastes within the South Pacific Region.

Several provisions relevant to disposal of wastes at sea are also found in the 1986 **Noumea Convention** for the Protection of Natural Resources and Environment of the South Pacific Region and its 1990 Dumping Protocol. In addition, the Noumea Convention contains a specific requirement for parties to take all appropriate measures to prevent pollution within the convention area from the storage of toxic and hazardous wastes (Art. 11).

Waigani Convention

The Waigani Convention is modelled on the provisions of the Basel Convention, discussed above, with some differences regarding the covered wastes.

Types of wastes covered

The Waigani Convention, like the Basel Convention, covers hazardous wastes. Hazardous wastes are defined in a similar way to the Basel Convention i.e. as *'wastes belonging to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex II, as well as wastes that are defined as, or are considered to be, hazardous wastes by the national legislation of an exporting, importing or transit party'*. The Waigani Convention also covers radioactive wastes (which are excluded from the scope of the Basel Convention).

In the Waigani Convention, there is no category of 'other wastes' as exists in the Basel Convention, but hazardous waste categories contained in Annex I include *'wastes collected from households, including sewage and sewage sludges, except for clean sorted recyclable wastes which do not possess any of the hazardous characteristics defined in Annex II'*. Like the Basel Convention, the Waigani Convention thus covers the priority waste streams which are hazardous wastes, such as healthcare wastes, asbestos and e-wastes. E-wastes are not specifically listed in Annex I of the Waigani Convention (in contrast to the Basel Convention) but will still be covered where they are contaminated with, or contain, certain hazardous chemicals or heavy metal components.

By virtue of its application to household wastes, the Waigani Convention may also cover plastic waste and some organic or bulky wastes, but only where these wastes have hazardous characteristics. This is different from the Basel Convention under which shipments of household wastes are covered as 'other wastes', even if they do not have hazardous characteristics.

Like the Basel Convention, the Waigani Convention defines wastes as *'substances or materials which are disposed of, or are intended to be disposed of, or are required to be disposed of, by provisions of national legislation'* (Art. 1). 'Disposal' is defined by reference to Annex V that distinguishes between *'operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses'* and operations which do lead to these possibilities. The latter are listed in identical terms to those in the Basel Convention (see Table 1 above).

Main requirements of Waigani Convention

The general obligations of Waigani Convention parties are set out in Article 4. Under this article, Pacific Island developing parties are required to take *'appropriate legal, administrative and other measures'* within the area under their jurisdiction to ban the import of all hazardous wastes and radioactive wastes from outside the area covered by the Convention. 'Other parties', which refers to Australia and New Zealand, are also required to take appropriate legal, administrative and other measures to ban the export of all hazardous wastes and radioactive wastes to all Forum Island Countries, or to territories located in the Waigani Convention area.

Article 6 of the Waigani Convention provides a notification procedure for shipments of hazardous wastes to other parties, which is similar to that under the Basel Convention. Shipments cannot occur without the written consent of the importing party and any transit country (whether or not a party to the Convention).

An example of a shipment involving a non-party transit country occurred in 2019 for used oil moving from the Federated States of Micronesia to New Zealand, but transiting through the Marshall Islands, which was required to issue a written consent for this shipment.

Also required under the Waigani Convention for a shipment to take place is:

- Written confirmation from the importing party of the existence of a contract between the exporter and the disposer specifying the ESM of the wastes in question; and
- Written confirmation from the exporter of the existence of adequate insurance, bond, or other guarantee satisfactory to the exporting party.

Transboundary shipments of hazardous wastes must be accompanied by a 'movement document' containing information specified in Annex IVB of the Convention (Art. 6(9)) and must be covered by such insurance, bond or other guarantee as may be required or agreed to by the importing party or any transit Party. Under Article 8 there is a duty on the exporting party to re-import wastes if the transfer cannot be completed or to make other arrangements for the environmentally sound disposal of those wastes.

Article 4(4) provides that parties are to ensure 'the availability of adequate treatment and disposal facilities for the environmentally sound management of hazardous wastes, which shall be located, to the extent practicable, within areas under its jurisdiction, considering social, technological, and economic considerations'. Where parties are unable to dispose safely of hazardous wastes in their territory, there is provision for other cooperative solutions under Article 10 of the Convention.

Cooperation and agreements with non-parties

Article 10 of the Waigani Convention calls on parties to '*cooperate with one another, non-parties and relevant regional and international organisations, to facilitate the availability of adequate treatment and disposal facilities and to improve and achieve the environmentally sound management of hazardous wastes ... [to] be located within the Convention Area to the extent practicable taking into account social, technological and economic considerations*'. This provision contemplates possible regional solutions for disposal of hazardous wastes, such as the development of 'hubs' for this purpose.

Pursuant to Article 10(3), SPREP, as the Secretariat of the Waigani Convention, is tasked with encouraging Australia and New Zealand (i.e. other parties) and 'other concerned developed countries' to 'promote, facilitate and finance, as appropriate', the transfer of, or access to, environmentally sound technologies and know-how to Pacific Island developing country parties to enable them to implement the provisions of the Waigani Convention. Australia and New Zealand, as other parties, undertake to cooperate with SPREP as the Waigani Secretariat in this regard. One example of such cooperation, discussed by an interviewee, was in respect of the waiver or reduction of requirements for Pacific Island developing country parties to obtain a Waigani (or Basel) permit to export waste to Australia; shipments which can otherwise be prohibitively expensive.

Like the Basel Convention, the Waigani Convention has provision for bilateral, regional, or multilateral agreements or arrangements to be made with non-parties so long as these do not derogate from the requirements of the Waigani Convention and the ESM of wastes it requires. As several of the participating countries are not party to the Waigani Convention (namely, the Marshall Islands, Nauru, Palau, and Timor-Leste), this provision allows for arrangements on a bilateral or regional basis that could encompass these countries as well as Waigani Convention parties.

Soft Law Instruments Relevant for Waste Governance

In addition to 'hard law' requirements found in conventions, there are many non-binding, 'soft law' instruments that apply to wastes and hazardous chemicals. Soft law instruments made by inter-governmental and other bodies describe such things as principles, goals, targets, and standards that guide states on their national policies and laws, but they are not legally binding under international law. Some soft law instruments, such as the SDGs, are general in nature. Others are more specific and often contain guidelines for countries and other actors to follow in managing hazardous substances. In some cases, particular soft law instruments preceded, and shaped, the development of hard law requirements under international conventions.

There are a large number of soft law instruments in the waste and chemicals management field that are incidentally relevant to waste governance. For example, there are currently 19 applicable global frameworks (both MEAs and soft law instruments) developed by international institutions and non-governmental organisations (NGOs) addressing the management of plastic wastes and marine litter (see Nielson et al. 2019. *WIREs Energy and Environment* **9(1)**: E360, <https://doi.org/10.1002/wene.360>, tables 1 and 2).

Soft law frameworks provide guidance but are not legally binding for countries. Some will also be more authoritative than others; for example, guidelines developed by multilateral UN bodies or other international inter-governmental bodies, such as UNEP's Global Plastics Forum, its Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, or the Commonwealth Clean Ocean Alliance, might have influence on states. In the area of marine plastics, several soft law instruments have been developed by industry or NGOs, sometimes in collaboration with international institutions, for example, the WEF Global Plastic Action Partnership and the New Plastics Economy Global Commitment (led by the Ellen MacArthur Foundation, in collaboration with UNEP).

Three global inter-governmental soft law instruments, with application to hazardous chemicals and wastes in land-based contexts, are summarised below:

- *Strategic Approach to International Chemicals Management (SAICM)*: Developed by the International Conference on Chemicals Management. This instrument outlines a framework for chemical risk management under five main themes: (i) risk reduction; (ii) knowledge and information; (iii) governance; (iv) capacity-building and technical cooperation; and (v) illegal international traffic. In 2006, SAICM adopted a Global Plan of Action that contained a menu of work areas and activities for each of the five themes, including targets, timetables, and indicators of progress. SAICM has a goal of assuring that, by 2020, every country will produce and use chemicals in ways that minimise significant adverse impacts on the environment and human health.
- *1985 FAO Code of Conduct on Pesticides Management* (updated in 2013). The FAO Code has become the internationally accepted standard for labelling, packaging, storing, using, and disposing of pesticides. It originally specified a prior informed consent procedure for trade in pesticides, but this has since been removed following conclusion of the Rotterdam Convention. The FAO Code, as a non-binding instrument, has a broad application, extending to municipal governments, local officials, industry, workers, consumers, NGOs, and the public.
- *OECD 1990 Recommendation on Integrated Pollution Prevention and Control* identifies basic principles, including consideration of the entire life cycle of substances and products, anticipation of environmental effects in a variety of environmental media and minimisation of waste. The recommendation also identifies the desirability of zero-waste or low-waste technology, recycling, and alternative manufacturing strategies. It was an early indicator of the emergence of notions such as the 'circular economy' in the international arena. Further work is being undertaken by the OECD Global Forum on Environment, for example, on 'Plastics in a Circular Economy: Design of Sustainable Plastics from a Chemicals Perspective'.

At the regional level, there has also been significant policy development in the Pacific region on the topic of waste management. A number of the key regional policies and reports concerning the management of land-based waste are set out in Table 2.

Table 2: Regional policies and reports on waste

<i>Author</i>	<i>Date</i>	<i>Policy</i>
<i>SPREP</i>	2019	<u>Sustainable Consumption and Production (SCP) in the Pacific</u>
<i>SPREP</i>	2018	<u>Practical Guide to Solid Waste Management in Pacific Island Countries and Territories</u>
<i>SPREP</i>	2018	<u>Regulating Plastics in Pacific Island Countries: A Guide for Policymakers and Legislative Drafters</u>
<i>PRIF</i>	2018	<u>Pacific Region Solid Waste Management and Recycling – Pacific Country and Territory Profiles</u>
<i>SPREP</i>	2018	<u>Pacific Marine Action Plan: Marine Litter 2018–2025</u>
<i>UNCRD</i>	2018	<u>State of the 3Rs in Asia and the Pacific</u>
<i>SPREP</i>	2016	<u>Cleaner Pacific 2025: Pacific Regional Waste and Pollution Management Strategy 2016-2025</u>
<i>WHO</i>	2015	<u>Status of Health-Care Waste Management in Selected Countries of the Western Pacific Region</u>
<i>ADB</i>	2014	<u>Solid Waste Management in the Pacific: Country Snapshots</u>
<i>SPREP</i>	2014	<u>Baseline Study for the Pacific Hazardous Waste Management Project: Healthcare Waste</u>
<i>SPREP</i>	2013	<u>Review of Regional E-Waste Recycling Including a Model Product Stewardship Approach for Pacific Islands Nations</u>
<i>SPREP</i>	2013	<u>Pacific Health Care Waste: A Regional Strategy and Action Plan 2013-2015</u>
<i>SPREP</i>	2011	<u>An Asbestos-Free Pacific: A Regional Strategy and Action Plan</u>
<i>SPREP/JICA</i>	2009	<u>Pacific Regional Solid Waste Management Strategy 2010-2015</u>

Assessment and gaps

The global and regional framework dealing with waste management, and the management of hazardous chemicals that may give rise to wastes, is well-developed and long-standing. The main conventions are regularly reviewed and amended to cover new categories of wastes and chemicals. Amendments have also been introduced to include provisions for specific waste streams (such as the new 2019 Norwegian amendment to the Basel Convention on plastic wastes). The more recent Minamata Convention adopts a lifecycle approach to the regulation of mercury, a specific chemical that is associated with particular waste issues.

The existing global framework has some well documented limitations, including:

- its inattention to waste generation
- lack of controls on land-based waste management
- lack of specific support for re-use, recycling, and recovery operations
- limited inclusion of modern waste management concepts such as the circular economy, cleaner production, and extended producer responsibility.

Issues stem from a number of core problems included in Table 3.

Table 3: Waste management Issues not currently included in MEAs

<i>Issue</i>	<i>Impact</i>
<i>the generally fragmented approach to waste management that largely fails to deal with the issue of preventing waste generation</i>	Several MEAs that seek to eliminate the production and consumption of certain hazardous substances, such as POPs (Stockholm Convention), ozone depleting substances (Montreal Protocol), and mercury (Minamata Convention). However, beyond these conventions, there are no internationally binding targets and timetables establishing quantitative or other limits for waste production.
<i>There are no direct international controls on land-based incineration of wastes</i>	More restrictive international requirements prohibiting the disposal and incineration of wastes at sea, compared with much less well-developed requirements for environmentally sound management of wastes on land, can contribute to shifting the disposal problem from one environmental medium (ocean-based) to another (land-based). Regulation is only by indirect means, for example, through treaties covering the emission of greenhouse gases or unintentional production of POPs. Outside of the European Union, there is no international regulation of the standards applicable to domestic waste disposal facilities, such as landfills.
<i>the lack of international cooperation around the re-use, recycling, and recovery of wastes</i>	Both the Basel Convention, and the Waigani Convention at the regional level, identify disposal operations that may lead to re-use, recycling, recovery, reclamation, and alternative uses of wastes, including waste-to-energy or recycling/re-use of previously used oils. However, neither the Basel or Waigani Conventions specify a cooperative framework to facilitate re-use, recycling, and recovery options for wastes. The closest example is the new provisions under the Basel Convention that apply to ‘clean’ plastic wastes, exempting transboundary movements of these items from the requirements of the convention. Under the Waigani Convention, which applies to wastes derived from household waste streams that have hazardous characteristics, there is an exemption specified for ‘clean sorted recyclable wastes’ which serves a similar function. In practice, the lack of a specific framework for re-use, recycling, and recovery under global and regional waste MEAs gives rise to problems for shipments of wastes that are intended for re-use or recycling operations but are caught by the requirements of the conventions because they are contaminated with hazardous substances.

Issue	Impact
<i>international law has focused primarily on the permissibility of transboundary movement and trade in waste, with a primary concern for illegal dumping in developing countries of hazardous wastes produced in developed countries</i>	Instead of facilitating re-use, recycling and recovery of wastes, international law has focused primarily on the permissibility of transboundary movement and trade in waste, with a primary concern for illegal dumping in developing countries of hazardous wastes produced in developed countries. This motivation underlies the Basel Ban amendment, which recently entered into force in 2019
<i>Waste prevention, cleaner production, circular economy concepts and related tools such as extended producer responsibility</i>	Waste prevention, cleaner production, circular economy concepts and related tools such as extended producer responsibility, which seeks to involve the private sector in developing environmental solutions, have not yet been translated into binding commitments under MEAs. For participating countries this is a notable gap as it means key issues for these countries, which often relate to how to deal with stockpiling wastes in-country (dealt with further in Part C), are not well provided for under existing MEAs.

SECTION 2: Framework

Alignment to Participating Countries

Considers the alignment of the global and regional conventions and frameworks discussed in Part A to the situation of the participating countries, as well as any gaps in coverage that could be resolved to strengthen waste governance outcomes.

Participation in global and regional MEAs

Only three of the PacWastePlus participating countries (Samoa, Tonga, and Vanuatu) are parties to all five MEAs. The remaining twelve countries are party to different combinations of the five MEAs.

Whether a country elects to join a particular MEA is a sovereign decision made considering its own national considerations and circumstances, based on an understanding of the benefits that membership of a convention might bring, as well as an assessment of internal capacity to comply with the international obligations the convention would impose, including those relating to implementation and reporting.

Table 4 details the overall participation of the PacWastePlus participating countries in the relevant MEAs.

Table 4: PacWastePlus countries participation in relevant MEAs

R = Ratification. A = Accession. S = Signature only. N/A = Not applicable.

COUNTRY	CONVENTIONS							
	BASEL 1992 (Year convention took effect)	Basel Ban amendment	STOCKHOLM 2004 (Year convention took effect)	Year Initial/updated National Implementation Plan (NIP)	ROTTERDAM 2004	MINAMATA 2017 (Year convention took effect)	Initial assessment	WAIGANI 2001
Cook Islands	2004 A	2019	2004 A	2011 update in progress	2004 A	Not party	In progress	2001 R
FSM	1995 A	Not party	2005 R	2007 update in progress	Not party	Not party	N/A	2001 R
Fiji	Not party	Not party	2004 R	2006 update in progress	Not party	Not party	N/A	2001 R
Kiribati	2000 A	Not party	2004 R	2019	Not party	2017 A	In progress	2001 R
Marshall Islands	2003 A	Not party	2004 A	2008 update in progress	2004 A	2019 A	In progress	Not party
Nauru	2002 A	Not party	2004 R	2018	Not party	Not party	N/A	Not party
Niue	Not party	Not party	2005 R	2005 update in progress	Not party	Not party	In progress	2003 R
Palau	2011 A	Not party	2011 R	2013 update in progress	Not party	2017 R	In progress	Not party
Papua New Guinea	1995 A	Not party	2004 R	2013 update in progress	Not party	Not party	In progress	2001 R
Samoa	2002 A	Not party	2004 R	2004 update in progress	2004 A	2017 R	2018	2001 R
Solomon Islands	Not party	Not party	2004 R	2018	Not party	Not party	N/A	2001 R
Timor-Leste	Not party	Not party	Not party	N/A	Not party	Not party	N/A	Not party
Tonga	2010 A	Not party	2010 R	2009 update in progress)	2010 A	2019 A	In progress	2003 R
Tuvalu	Not party	Not party	2004 A	2008 update in pro-gress	Not party	2019 A	In progress	2001 A
Vanuatu	2019 A	Not party	2005 R	2011 update in progress	2019 A	2019 A	In progress	2008 R

Gaps and Opportunities for MEA support for Waste Management

Basel and Waigani Conventions

A particular gap for some countries arises in respect of non-participation in the two key MEAs governing waste, (Basel and Waigani Conventions). These MEAs provide important safeguards for the transboundary movement and disposal of hazardous and some other wastes (e.g. plastic wastes):

- Both conventions **prohibit trade with non-parties** (see Basel Convention, Art. 4(5); Waigani Convention, Art. 4(4)(g)), although parties can enter bilateral, regional, or multilateral arrangements with non-parties to allow trade in wastes, provided measures to ensure ESM are in place. Where participating countries that are non-parties for these conventions are involved or seeking to become involved in regular shipments of wastes, serious consideration might be given to whether joining the Basel and/or Waigani Conventions might be a more efficient option.
- The **Basel Ban** provides protection against the 'dumping' of hazardous wastes by developed country parties in developing country parties. It does not, however, prevent exports of non-hazardous wastes – such as aluminium, glass bottles, paper, non-contaminated household wastes or clean plastic wastes – from developed to developing country parties. Transfers of these non-hazardous wastes may also be of concern for some countries.

The Basel Ban also prevents **exports to developing countries parties of hazardous wastes** intended for recovery, re-use, or recycling operations. Potentially, for Pacific Island countries that are, or become, parties to the Ban amendment this might inhibit development of a regional waste-to-energy facility if this was dependent on imports of waste from countries in the region, including from developed countries such as Australia and New Zealand. At present, only the Cook Islands amongst the participating countries is party to the Basel Ban.

Minamata Convention

As the Minamata Convention was concluded relatively recently, and only entered into force in 2019, it is not surprising that several of the participating countries are not party to this treaty.

Several non-parties have a Minamata Initial Assessment (MIA) underway or completed. In particular, SPREP is currently assisting in the development of MIAs for a number of Pacific island countries. SPREP is also assisting in the development of MIAs for several existing parties to the Minamata Convention, namely, Kiribati, the Marshall Islands, Palau, Tonga, Tuvalu, and Vanuatu.

The development of a MIA is an enabling activity supported by the Global Environment Facility (GEF) for developing countries and countries with economies in transition. The aim is *'to strengthen national decision-making toward ratification of the Minamata Convention on Mercury and build national capacity towards implementation of future obligations'* (UNDP 2020).

Stockholm and Rotterdam Conventions

The PacWastePlus participating countries have very good coverage of the Stockholm Convention on POPs, except for Timor-Leste. The POPs Convention is particularly relevant for regulation of PCBs (often found in e-wastes) and unintentional releases of dioxins and furans, for example, through the incineration of hazardous wastes. In addition, SPREP assisted with completing the update and review of Stockholm Convention National Implementation Plans (NIPs) for Fiji, Tuvalu, and Tonga in 2019 and early 2020.

By contrast, coverage of the participating countries in terms of the Rotterdam Convention is less comprehensive. This Convention is important for controlling trade in toxic pesticides and industrial chemicals, including asbestos, but has less direct relevance to waste management compared with other MEAs.

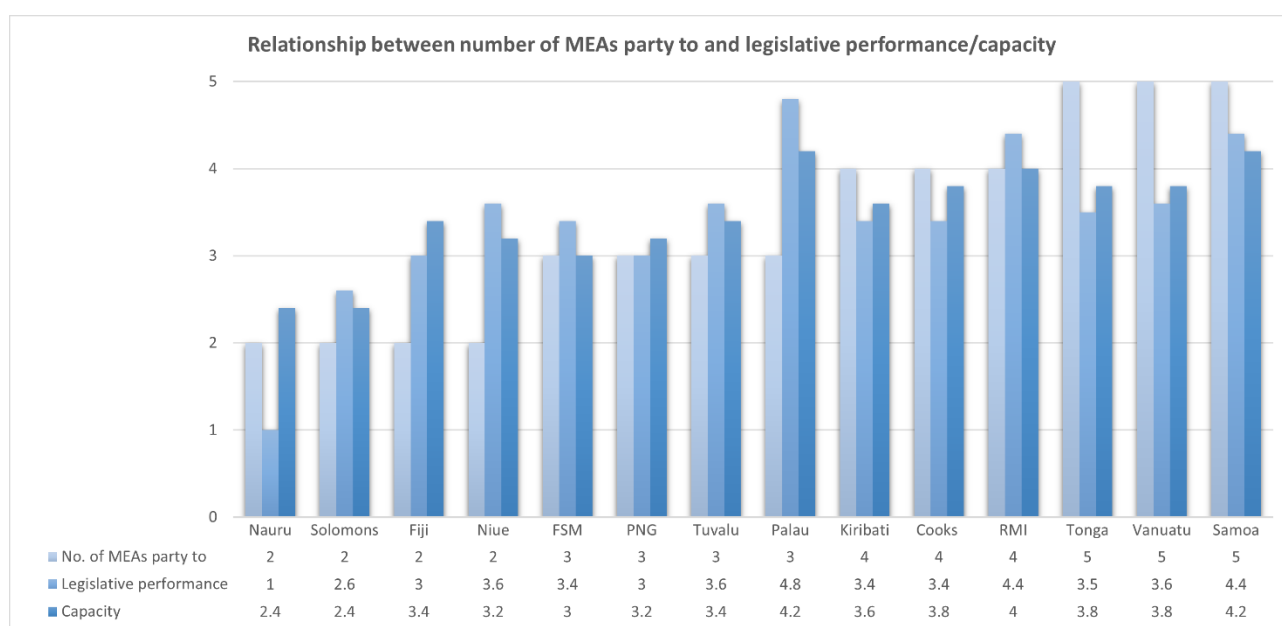
Potential capacity-building role of MEAs

It appears there is a correlation between the number of waste-related MEAs participating countries are party to, and improved legislative performance and capacity for administering waste-related laws, especially where countries are party to three or more such treaties (see

Figure 1).

This trend of improved legislative performance and implementation capacity might be, in part, because joining these MEAs gives developing country parties access to financial, technical, and capacity-building resources that, overall, help to strengthen the country's legislative framework for waste management, and its capacity to administer those laws effectively.

Figure 1: Relationship between number of MEAs party to and legislative performance/capacity (N.B. legislative performance and capacity scores are an average based on the ratings assigned in the Legislative Assessment and Capacity Assessment reports; Timor-Leste was not included in this data set as it is not party to any of the relevant MEAs)



The global MEAs include provisions on international cooperation for financial and technology transfer and capacity-building, with a focus on developing countries (e.g. Basel, Art. 10; Stockholm, Arts 12-13; Rotterdam, Art. 16; and Minamata, Arts 13-14). As discussed in the Capacity Assessment Report, several of the participating countries have accessed UNEP secretariat resources and GEF funding under these conventions to conduct assessments, develop national implementation plans and build capacity for improved implementation.

The Basel Convention makes provision for regional or sub-regional centres for training and technology transfers regarding the management of hazardous wastes and other wastes and the minimisation of their generation (Art. 14). The Pacific Regional Centre for Training and Technology Transfer for the Joint Implementation of the Basel and Waigani Conventions in the South Pacific region was established in 2003 and is hosted by SPREP. It supports parties of these conventions with the ESM of hazardous wastes, POPs, and national reporting.

Under the Waigani Convention there is no formal financial or capacity-building mechanism. However, under Article 10(3), 'other parties' (i.e. Australia and New Zealand) agree to cooperate with the Secretariat with respect to facilitating the transfer of environmentally sound technologies and know-how to Pacific Island developing country parties to enable their implementation of the Waigani Convention. A review of the Waigani Convention Secretariat and its effectiveness may be a useful activity.

Non-alignment of global framework with needs of participating countries

Four key gaps in the existing global and regional conventions and frameworks applicable to waste management were identified:

- its inattention to waste generation
- lack of controls on land-based waste management
- lack of specific support for re-use, recycling, and recovery operations
- limited inclusion of modern waste management concepts such as the circular economy, cleaner production, and extended producer responsibility.

These limitations have relevance for the situation of the participating countries. Overall, waste generation, and strategies for minimising waste in-country, present a more pressing concern for many participating countries than exports of hazardous or other wastes to their territories by other countries, which is the focus of international and regional conventions. The PacWastePlus participating countries face growing problems with the domestic management of waste streams, such as plastics, recyclables, bulky waste, and e-waste. This may consequently lead to problems of littering or illegal dumping, stockpiling of wastes, or unsegregated entry of wastes into landfill, with associated detrimental consequences for the local environment and human health.

At the same time as increased problems of waste generation are arising in participating countries, there is a limited contribution from 'polluters' to paying for the disposal of those wastes, providing an opportunity for countries to consider developing 'extended producer responsibility' legislative instruments that will assist to create a sustainable financing system enabling the environmentally sound management of imported products destined to become a waste issue.

The existing global conventions offer only limited standards governing in-country, land-based waste disposal beyond general requirements for 'environmentally sound management'. Guidelines have been developed under the Basel Convention for the ESM of wastes such as POPs, mercury, e-wastes, and plastics, however, there are no direct international controls on the incineration of wastes, unless this occurs at sea or on-board vessels.

Most problematic for PacWastePlus participating countries is the lack of specific international cooperation to promote re-use, recycling, and recovery of wastes. This poses a significant challenge for Pacific Island countries with restricted space to dispose of waste and limited facilities in-country to support disposal/recycling/recovery operations. The international framework is primarily focused on procedures and requirements for exporting wastes, including for their environmentally sound disposal, which in turn is dependent on locating suitable export markets. Increased restrictions on the export market for plastic wastes is a significant challenge at present. The cost of insurance required under Basel/Waigani permits for shipments of hazardous waste, such as waste oil, is also a barrier for export of these wastes for re-use and recovery operations.

SECTION 3: Options for Regionally Harmonised Approaches

Assesses options for regionally harmonised approaches to address common gaps identified at a national level.

Common Gaps at National Level

In the assessment of the participating countries' waste-related legislation and capacity to administer that legislation effectively, there were several common gaps identified:

- Stockpiling of recyclables (e.g. plastic/PET bottles and aluminium cans) and wastes that can be repurposed as a resource (e.g. e-waste, used motor oil) due to the inability to find suitable, cost-effective options for export of these materials to other countries for recycling or recovery.
- Separation, storage and handling of hazardous wastes, such as asbestos, healthcare waste and some forms of wastewater.
- Lack of segregation of wastes, such as green and other organic waste, to reduce demand and improve efficiency of managed rubbish dump sites.
- Inadequate protection of groundwater and seas from land-based storage and handling of wastes.
- Littering, illegal dumping and unsafe storage of wastes, including 'legacy' wastes accumulated over decades.
- Limited availability of space for traditional waste management options e.g. landfill leading to consideration of options for alternative waste management technologies e.g. waste-to-energy or options to ship wastes to a regional recycling hub.
- Poor implementation of legal requirements or coverage of waste management services, particularly in more remote areas, such as outer islands.
- Growth in importation of waste-generating consumer items (e.g. plastics and packaging, electronic goods) leading to increased problems with these categories of waste.
- Limited technical capacity to support the implementation of laws in some countries, including expertise and equipment to monitor implementation of waste management requirements.
- Limited personnel to undertake compliance and enforcement of waste-related laws.
- Insufficient recovery of costs of waste management from producers, generators, and consumers to ensure sustainable financing of these services.

Common challenges arising from these gaps are detailed in Table 5.

Table 5: Waste management challenges at national level

Challenge	Discussion
<i>Export of recyclables</i>	<p>Several of the participating countries have implemented, or are contemplating the introduction of, container deposit legislation or similar schemes for a wider range of products.</p> <p>The financial administration of container deposit schemes can be complex, sometimes involving a mix of entities (public and private) receiving and refunding deposits and disbursing remaining funds after costs of collection, processing and storing waste for recycling have been deducted and paid to relevant operators. Some schemes have very detailed provisions on financial administration, stipulating how monies are to be disbursed, with safeguards to ensure that the funds are properly administered. Tuvalu's waste levy, for example, covers a wide range of products, with some attracting high deposits, and the relevant regulation contains detailed requirements for the proper administration of the funds.</p> <p>Where recyclable materials are collected, the challenge with finding suitable, accessible, and affordable export markets means that they are, in many cases, left in stockpiles. If not properly managed, stockpiles of waste for recycling can lead to environmental and human health impacts. This includes the risk of combustion of stockpiled materials, as well as release of harmful leachates. The increased collection of these materials is also at risk when export markets are not available, which may result in a return to higher rates of littering.</p> <p>Finding accessible and affordable export markets, particularly related to lowering the costs associated with transport of wastes to importing countries, may be the focus of a regionally harmonised or coordinated approach. This may provide an opportunity for multiple countries to enter a single export agreement to ensure required volumes can be gathered and transport costs reduced. Any such agreement will likely also need to address issues associated with internal shipments of waste between islands to the international port of export. A regional solution to these issues may involve an extension and expansion of the existing Moana Taka Partnership, including arrangements with additional shipping companies.</p>

Challenge	Discussion
<i>Limited space for waste management facilities</i>	<p>Many countries in the Pacific have significant land-use constraints, and many have imminent issues with the rapidly filling waste management facilities (landfills) they currently utilise. Finding appropriate land area that will not impact on sensitive environmental areas and neighbouring communities, and that is not subject to the impacts from a changing climate is a significant challenge for most countries.</p> <p>Given these issues, countries are beginning to explore alternative waste management technologies as a possible solution to these issues. Similar issues to those already expressed remain though, as capacity of staff to many complex technical equipment, ability for equipment to operate effectively in the harsh tropical conditions, and generation of the necessary input products to make the technologies economically viable are significant barriers to their introduction.</p> <p>A possible solution is to create a regional network of facilities to enable accumulation of necessary waste volumes to make such technologies viable, but such action would require compliance with National legislation and compliance with the relevant MEAs.</p>
<i>Waste management on outer islands and in rural areas</i>	<p>For countries that have a number of outer islands or more remote rural areas, a common issue reported is the difficulty in ensuring effective waste management for these areas. Implementation of waste management laws and administration of related services, such as waste collection, is often working relatively well for central and urban areas, but not often expanded to remote communities.</p> <p>Outer islands appear to have particular issues of space and capability to manage waste. Incentives to reduce and prevent the generation of waste can be developed through legislation, including laws requiring public awareness and education programs. Management options could take the form of small alternative waste technologies. If these options were to be explored, there would need to be support for operation and management of the facility by the local population to ensure impacts on the environment and human health are minimised and that the benefits of the technology are realised, which may be a challenging task.</p> <p>Alternatively, transporting waste off-island in a reliable, safe, and low-cost manner, to a facility where appropriate operation and management may be appropriate. Transport of waste from outer islands to a central hub and associated ongoing cost commitments would likely require sustained government support to be feasible. It would also have to be supported by the specification of procedures and processes to be followed in segregating wastes, and necessary technical and financial assistance. Legislative measures allocating responsibility to local governing bodies for waste management and community engagement are also critical to waste management strategies.</p>
<i>Increased imports of waste-generating consumer items</i>	<p>Developing countries rely on imports of consumer items, many of which give rise to new types and increased volumes of waste. These imports are often increasing with growth in the countries' local tourism industries or consumer demand for these products in their own populations. For example, several countries reported significant reliance on import of food and beverages in plastic or metal containers, packaging from consumer items, as well as e-waste. With more used electronic and electrical products becoming waste, additional consideration is required for their management given their hazardous characteristics.</p> <p>PacWaste Plus participating countries may not have separate collection, recycling and waste management facilities for e-waste, or such wastes might not be able to be accommodated at existing landfill facilities. In some cases, such wastes may be dumped in landfill or burned. Some countries are exporting these wastes where they can opportunistically find markets, but these are unstable and often short-term opportunities.</p> <p>Regionally, the potential to develop public-private partnerships for extended producer responsibility for particular consumer goods to promote cradle-to-grave (and cradle-to-cradle) management of these products is a possibility.</p>
<i>Limited technical capacity to support implementation</i>	<p>The lack of technical support and know-how available in-country to support particular waste management options was identified as a significant barrier for many countries.</p> <p>The development of technical guidance or 'help sheets' that explain various options and opportunities might assist local officers reach decisions about what policy options they might like to pursue. This would reduce cost to individual countries, avoid duplication of consulting contracts and support countries where they may not have the technical capability to engage consultants, including for the drafting of new laws, and supporting procedures and protocols.</p>

Challenge**Discussion**

Where certain waste management options are of interest to multiple countries, it might be useful to develop region-wide guidance documents that include details of policy and regulatory options. Again, this would reduce costs for consultancies, avoid duplication and support those countries which may not have the technical or financial capacity to engage with consultants. However, it is likely that any such sharing of expertise between the participating countries would need to be facilitated by a regional institution to be effective.

While implementing laws, areas for reform or additional legal instruments are often identified. Limited personnel and expertise in-country to draft additional legal instruments has been identified as a common challenge. Legislative drafting manuals are particularly important in this instance as they clarify the process for drafting and making laws. Many of the participating countries already have such manuals – also known as handbooks – but government policy personnel are not necessarily aware of them. Networks, such as the Pacific Legislative Drafters' Technical Forum of the Pacific Islands Forum Secretariat, and the Pacific Legal Policy Champions facilitated by the Pacific Islands Law Officers' Network, have contributed to training and resources on legislative drafting in Pacific nations. They could be approached to explore options for building capacity for legislative drafting in the specific policy area of waste management.

Public access to laws, including secondary legislation such as regulations, is believed to be critical to implementation. Several of the participating countries had only limited access to comprehensive and up-to-date collections of laws on waste management, through government-maintained legal databases or government websites. Others, such as Fiji, have introduced comprehensive websites detailing relevant laws that are an example of best practice that might be adopted more broadly in other Pacific region countries. Consideration could also be given to how regional legal databases, such as PaLii, might be better funded and resourced to maintain comprehensive and up-to-date collections of waste-related laws.

Capacity-building for compliance and enforcement

Many PacWastePlus participating countries reported capacity needs in compliance and enforcement of waste-related laws. Training of government officers on investigative techniques, compliance approaches and preparing evidence for enforcement is critical, and could be conducted on a regional basis, or for groupings of countries with similar needs.

The lack of a central repository of information on enforcement actions, including prosecutions and court cases is seen as a current weakness. Databases such as PaLii and WorldLii provide some limited information on prosecutions across the Pacific region but this information is not comprehensive and not regularly updated. A central database of such information, that was publicly accessible, could help build awareness of waste-related laws across the region and potentially aid with compliance activities and efforts to promote community/business behavioural change. Pacific Island regulators and enforcement officers might also benefit from establishment or membership of a network such as AELERT – which is a network for Australasian environmental regulators.

Options for Regional Approaches to Waste management Frameworks

The existence of common gaps in waste governance across the participating countries suggests scope to consider potential regional solutions. Options for regional approaches include:

- The development of model laws and best practice on waste management priority areas shared across several participating countries;
- Agreements for shipping of wastes to overseas export markets; and
- Regional waste management facilities for waste-to-energy and recycling.

Model laws and best practice

Many Pacific Island countries are emerging as global leaders in regulatory approaches to waste management that foster behavioural change and waste minimisation. These approaches include:

- Laws dedicated to the management of specific waste streams requiring or encouraging segregation of waste and management of wastewater.
- Bans and other forms of restrictions on single-use plastics to reduce the amount of plastic waste generated in-country.
- Deposit schemes for containers that are recyclable, including beverage containers made from glass, plastic, and aluminium, as well as other items and products that produce e-waste and bulky waste.
- Undertakings and other 'duties' on waste producers e.g. international disaster relief agencies required to manage waste in the course of providing disaster relief, retailers required to notify customers of waste laws, and pledges taken by tourists to minimise their environmental footprint.
- Community education programs associated with any of the above or targeted to dissemination of general regulatory requirements related to waste management.

The laws giving effect to these regulatory approaches vary from country to country and they have been introduced at different times. Those countries that have a longer experience of some of the approaches and can share information about additional laws and procedures that could be useful to other participating countries in the earlier stages of implementing the same kinds of approaches or looking to expand their laws to cover more waste streams.

A regional mechanism or forum for comparing, sharing, and discussing the experience of drafting and implementing these laws would be useful to the development of policy and future laws in each of the countries.

To ensure the efficacy of any system or regulatory framework, the implementation of effective compliance and enforcement capacity to carry out these laws and to produce the required behavioural changes across businesses, consumers and tourist visitors to these countries is likely to be needed to be developed. Regionally organised training programs to support implementation, compliance, and enforcement of new and emerging regulatory approaches across the Pacific could serve an important capacity-building role. This training could target the range of agencies implementing the laws, which often includes customs, quarantine and port authorities, finance departments and financial oversight bodies, immigration, and tourism authorities, as well as environmental departments and agencies.

Agreements for promoting offshore shipping of waste for recycling

Existing global and regional frameworks have a focus on transboundary movements of waste and waste disposal but have significant gaps when it comes to targeting waste generation or re-use/recycling and recovery options. For most of the PacWastePlus participating countries, the primary issue is not preventing hazardous and other wastes coming into the country (with the exception, perhaps of asbestos sheeting, which may later give rise to asbestos waste) but rather a lack of space and capacity to deal with waste generated in country.

Finding markets for recyclables and other wastes collected (and stockpiled) in participating countries poses a complex challenge where economic and technological factors play a significant role. There may be scope for new legal arrangements or agreements at a Pacific regional level, or between groups of participating countries, to contribute to solutions to these issues.

Costs of transportation, and for hazardous waste shipments (including insurance requirements) are a major barrier for countries to export collected recyclables and re-usable wastes. Shipping costs were estimated to account for around 70-75% of the total cost of moving recyclables off-island. It appears that for scrap metals and aluminium cans, the economic value of these materials is sufficient to support collection and export for recycling, but many other recyclables end up being collected (for example, under container deposit schemes) and then stockpiled as there is no cost-effective, commercially viable way to export them.

Considering the challenges faced by Pacific island countries, The China Navigation Company Ltd./ Swire Shipping Agencies, and SPREP signed a Memorandum of Understanding (MOU) on March 20, 2018, as part of the Global Recycling Day, to address critical waste management issues in the Pacific Islands under the Moana Taka Partnership (MTP) project.

The Moana Taka Partnership helps alleviate the burden of waste on islands in the Pacific by enabling Swire Shipping vessels to utilise empty shipping containers to transport non-commercial recyclable waste from islands. This waste is transported to countries with appropriate waste disposal facilities, ensuring that everything from oil to plastics to aerosols are properly recycled. This partnership is a critical partnership which facilitates a circular economy, by providing access to waste and recycling infrastructure abroad. PacWastePlus seeks to increase participation in the Moana Taka Partnership by participating countries and encourages members who are serviced by Swire Shipping to investigate the possibility of using MTP to move stockpiles of non-commercial waste.

The MTP, together with similar initiatives, could provide a foundation for scaling-up options for export of recyclables from Pacific Island countries in conjunction with different shipping consortiums, which would provide transportation for wastes to export markets. Scaling-up would need to address current capacity constraints, particularly of SPREP to support the program with appropriate technical expertise. To expand the partnership more broadly might require a sub-network that could bring waste from outer islands and smaller ports to the major centre ports, potentially, delivered through a regional recycling hub that then links into the major export shipping routes. An in-region coordinator or coordinating body would be necessary to support such an initiative.

If a broader regional agreement or arrangement is put in place to scale-up the MTP, elements that might be considered could include:

- General objectives and expectations relating to environmental protection and protection of human health.
- Articulation of the roles and responsibilities of participating countries/shippers, consignees in exporting countries, the shipping companies involved and the implementing/coordinating agency in respect of waste shipments.
- Requirements regarding liability, insurance, bonds and guarantees for shipments, as well as a duty to re-import if a shipment is not accepted by the exporting country.
- Requirements for extended producer responsibility, implemented through national legislation, to incentivise producers of waste-generating items who export those to the region to seek options for collection and export of wastes, including engaging with shipping companies who can supply off-island transportation services.
- An extended duty of care on shippers (or the implementing/coordinating agency) to carry out due diligence, quality, and assurance to ensure there is provision for environmentally sound treatment or disposal of wastes in the countries to which they are shipped, and that there is not 'dumping' of wastes at another point along the transportation route. Notably, for wastes regulated under the Basel/Waigani Conventions there is a requirement that any subsidiary bilateral, regional, or multilateral agreement or arrangement entered by parties with non-parties ensures these arrangements do not derogate from the parties' convention obligations or from the required ESM of such wastes.

A regional arrangement or agreement might be supported by a series of bilateral arrangements, contracts, or other individual country-to-hub agreements to deal with issues of funding, ensuring ongoing waste volumes and waste specifications, including requirements around wastes being uncontaminated and certified for biosecurity purposes.

Ensuring clean and segregated wastes, whether for export overseas or to a recycling hub for further processing, remains a key issue. This will require specification of standards for wastes shipped overseas or to the regional hub, together with in-country capacity building and ongoing staff availability to ensure that wastes destined for export or recovery operations meet the standards required.

Developing regional waste management facilities

Several PacWastePlus participating countries are exploring alternative waste management technologies in response to issues of limited on-island space and capacity to manage wastes. For most countries, development of small-scale plants for this purpose may not be feasible, because of the initial investment of funds required, the need for sufficient volumes of waste, and a lack of technical and other capacity to support ongoing operation and maintenance.

A regional agreement to allow smaller countries to ship wastes to a 'hub' country for processing might be an option in these circumstances. Such an arrangement could support the collection of sufficient volumes of wastes on an ongoing basis. It might also provide an opportunity for the technology to be in a country that has sufficient skills and capability, as well as robust regulatory requirements, to support operations. Samoa was mentioned by some interviewees as a potential location. The arrangement might also be used to facilitate investment in education pathways for individuals from participating countries to develop necessary skills and capabilities. This may be useful in ensuring available and suitably trained staff both to run the facility in the hub country, and in other countries to manage collection and shipping, including ensuring that the exported materials meet required specifications.

Pathways forward

Developing regional options and approaches to address challenges that have proved difficult for individual nations and are likely to require a significant investment of time and resources.

Potential 'quick-wins' may arise in the areas of information sharing, development of model laws, collaborative technology support and capacity-building for compliance and enforcement activities. Building stronger regional networks, skills, and a technical and legal resource basis as the underpinnings of further collaborative efforts is worth investigating (and is a model used by the MEA Secretariats).

Taking forward these initial actions on a regional basis would likely require leadership by one or more of the participating countries, perhaps supported by SPREP (or a consortium of international donors), or alternatively, it may be possible to bring together a group of environment department officials and heads of environmental protection/waste management authorities in a collaborative group that sets priorities, agrees to a collaborative work plan and identifies action areas that can be elevated nationally to seek funding support.

These efforts could pave the way for a stronger regional network and provide some up-skilling and technical/legal assistance that might be a platform for exploring more challenging issues such as regional waste management facilities for waste-to-energy or recycling. Maintaining and effectively operating such facilities over time is likely to require a clear agreement among participating countries and sustainable levels of finance, skills training, and waste volumes.

There may be possibilities for the development of common resources and regional-level trainings on legal development, compliance, and enforcement elements to support the export of recyclable waste from the region. By necessity, given the range of different programs involved in supporting these arrangements, as well as different shipping countries, a single one-size-fits-all agreement that covers the vast geographic area within the jurisdiction of the participating countries is unlikely to be feasible. Expansion of existing agreements, such as the MTP, or learning from and coordination between a set of agreements involving sub-sets of participating countries may offer a better way forward.

Consistency across the waste management laws, standards and procedures in place at the national level and their implementation by participating countries could impart the necessary momentum to enable more ambitious cross-region coordination efforts.



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