Japanese Cooperation on Solid Waste Management

G20's Policies
Osaka Blue Ocean Vision

The Policies of Japan
MARINE Initiative

The Japanese government launched the MARINE Initiatives for the purpose of globally promoting effective measures to tackle marine plastic debris with a focus on (i) waste management, (ii) marine garbage collection, (iii) innovation and (iv) capacity building.

During the G20 Osaka Summit in June 2019, Japan proposed to reduce additional pollution by marine plastic litter to zero by 2050.

▲Source: Ministry of Foreign Affairs Homepage (https://www.mofa.go.jp/mofaj/gaiko/g20/osaka19/jp/photos/)

Ministry of Foreign Affairs
Link

Ministry of the Environment
Link

The Policies of JICA
Clean Cities Initiative

JICA is committed to continuing its efforts to tackle the issues of waste, water pollution, air pollution and other environmental pollution to realize the Clean Cities Initiatives, which will benefit 500 million people in 50 countries by 2030.

Measures against Marine Plastics

Promoting the 3Rs + Return

After waste collection and segregation activities, and in addition to

Reduce **(waste generation control)**,
Reuse **(repeated use)** and
Recycle **(regeneration into raw materials)**,

Return **(return back to the origins)**
is promoted by exporting resources that originally came from outside of the area, because it is difficult for the island states to domestically circulate the resources.

These efforts to manage land-based waste are expected to reduce the amounts of plastic waste flowing into the oceans.

Various Collaborations

Other donors and international agencies

PRIF, UNDP, ADB, etc.

Efforts will be made to provide effective and efficient assistance, which is achieved through collaborations with many stakeholder organizations.

Japanese actors

Okinawa Citizens' Recycling Movement
Fukuoka University and Fukuoka City
Shibushi City (Kagoshima Prefecture)
Mie Prefecture Hachioji City (Tokyo)
Learning and Ecological Activities Foundation for Children (LEAF), etc.

Cooperation activities are designed to make use of the knowledge and experiences of each of the Japanese actors.

Partner organizations

Secretariat of the Pacific Regional Environment Programme (SPREP)

Activities in partnership with other actors and agencies are explored to develop human resources and reinforce the foundations of administrative systems in the Pacific region to enhance the region's independence.

Japan International Cooperation Agency (JICA)
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Environmental Management Group

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Creating a Sound Circular Material Society in the Pacific Region

Japanese Cooperation
in the field of Solid Waste Management

Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries PhaseⅡ(J-PRISMⅡ)

Since 2000, J-PRISM has been developing human resources and reinforcing administrative systems for solid waste management in the island states of the Pacific region.

J-PRISM contributes to achive
Goal 11: Sustainable Cities and Communities,
Goal 12: Responsible Consumption and Production,
Goal 13: Climate Action, Goal 14: Life Below Water, and Goal 15: Life on Land,
etc., as described in the Sustainable Development Goals (SDGs).

Dispatching individual experts and training for the greater area(14 countries)

2000 • • • • 2005 • • • • 2010 • • • • 2015 • • • • 2020 • • •

J-PRISM Phase I(2011-2016) (11 countries)

J-PRISM Phase II(2017-2022) (9 countries)

◆Obstacles for self-sustainable solid waste management systems in the island states

Four characteristics of the island states

I solation
Disconnected lands, hampered transportation

R emoteness
Distance from developed countries' markets

N arrowness
Small islands, low-lying atolls

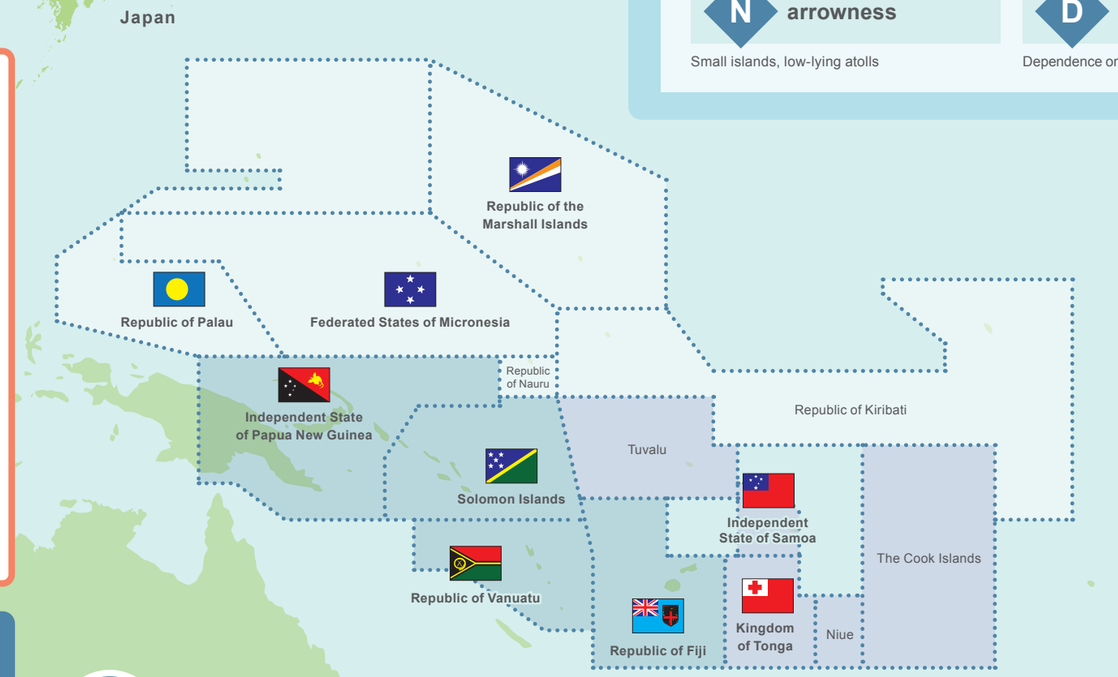
D ependence
Dependence on foreign aid and imported products

Challenges with waste management

One-way flow of goods
Waste continuously accumulates as it is untreatable within the islands

Changes in the volume, characteristics of waste
Growing volume of waste that is not naturally degradable

Vulnerable administrative capacity
Insufficient human/financial resources, materials/equipment, facilities, etc., for appropriate waste management



B uilding Human Resources

Developing more than 100 waste management leaders

Human resource development is provided to build leaders who can lead their own countries' solid waste management systems without depending on foreign aid. Also, mutual learning within the Pacific region helps provide platforms for networking and knowledge/information sharing among the leaders who play active roles beyond borders.

Example from Samoa

The officers in charge of solid waste management in Samoa were dispatched to Tonga, Fiji and Vanuatu to obtain training on how to launch waste fee collection systems. Such learning experiences have resulted in intra-regional collaborations in the Pacific region.

▲A team from Samoa is learning about waste fee collection systems at the waste association of Tonga.

Activity 1 Improving the landfill facilities

Cleaning the final disposal sites with Japanese technologies

Waste transportation and final disposal sites are essential for waste management. In addition, establishing and improving disposal sites in areas bordering the sea are expected to prevent the plastic waste from flowing into the ocean. Semi-aerobic landfill system (known as the "Fukuoka method"*) and DX** technologies are applied to strengthen the soundness of the waste management systems and to draw the mid- to long-term operational plans of the final disposal site to achieve further improvements.

HIGHLIGHTING Japan August 2020
"Protecting the Pacific Islands from Waste"

Countries that have adopted the Fukuoka method

▲A fire occurred in the landfill about twenty years ago due to inappropriate management (left photo). Currently, the same landfill is now appropriately managed, and its remaining years of useful life are calculated from a 3D model, which is produced based on the photos taken by drones (right photo).

*Fukuoka method: Sanitary landfill system that can be controlled and operated at a low cost by using locally available materials and equipment. This method was developed by Fukuoka University and Fukuoka City.
** DX: Digital Transformation, i.e., revolutionary innovation enabled by digitalization.

Activity 2 Support for tackling disaster waste

Disaster waste measures making use of Japanese experiences

The sound management of disaster waste from frequent cyclones, tsunamis, floods and other natural disasters is an emerging issue. Support for swift recovery and reconstruction is provided through the development of disaster waste management guidelines by making use of Japanese experiences and the donations of materials and equipment for waste removal work.

Countries assisted by J-PRISM

JICA's World, October 2018
A Cyclone Hits! Disaster Waste Management in Tonga

▲Activities to remove disaster waste from the cyclone aftermath in Tonga.

C leaning the islands

In over 30 cities in 9 countries of the Pacific region, waste collection activities were promoted through the development of basic waste disposal plans.

We developed solid waste collection plans and transportation systems within the islands. Regular waste collections have been launched in areas where waste management services had not been available. The regular waste collection and transport services have resulted in a reduction in the amount of litter that used to spread all over the islands, and also have raised the people's awareness to the environment.

Example from Tonga

Weekly waste collection and recycling services have started in the remote islands, the litter that used to spread all over the islands and illegal dumping have been eliminated, and the living environment has improved.

▲waste collection from households

Activity 3 3Rs + Return*

Waste volume control and reduction

Based on the "3Rs + Return" concept, efforts have been made to reduce the final disposal volume within the islands by launching a Container Deposit System (CDS)** Also, as a part of human resources development, training courses are provided for the officers of waste management administrations as well as recycling companies in the private sector for them to learn about the waste management systems and 3R activities within the Pacific region as well as in Japan.

- Countries supported for introducing a container deposit system …
- Countries supported for establishing recycling associations …

Example from Marshall Islands

Approximately 16 million containers, such as cans, glass and plastic bottles, among others, were collected in the first year after the CDS was launched. The aluminum cans are exported out of the region for recycling.

▲Crushing aluminum cans using a press machine donated from Japan.

*3Rs + Return: refer to the back side of this page
**Container deposit system: Consumers pay a deposit when they buy drinks in cans and plastic bottles, and the consumers or recyclers receive a part of the deposit back when they bring the empty containers to designated recycling stations in the country.