

Country Name	Improvement on Solid Waste Management in the Republic of Palau
Republic of Palau	

I Project Outline

Project Cost	292 million yen	
Project Period	October 2005 - September 2008	
Implementing Agency	Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce (BPW-MPIIC) Public Works Department-SWM Office, Koror State Government (PWD-SWM, KSG)	
Cooperation Agency in Japan	Ministry of Environment	
Related Projects	<p>Japanese Assistance:</p> <p>【Grant Assistance for Grassroots Projects】 The Project for Koror State Government Compost Facility and Recycling Center (2007)、 The Project for Koror State Government- Waste Segregation Station Phase 2 (2009)、 The Project for Acquisition of Waste Management Vehicles for Koror State (2010)</p> <p>【Senior Volunteer】 Technical assistance of the waste management for the PDW-SWM (2004-2006)、 Technical assistance of waste management for the BPW-MPIIC(2010-2012)</p> <p>【Technical Cooperation Project】 Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM) (2011-2015) : Capacity development for human resources and institutional settings in the field of waste management for 11 countries in the pacific region including the Republic of Palau</p>	
Background	<p>The Republic of Palau, gained independence from the United State of America in October 1994, is consisted of more than 200 islands, big and small. Out of total population of approximately 20,000 people, 70% live in Koror Island (the State of Koror). These days, imports of daily commodities from developed countries such as the U.S. as well as some Asian countries have been drastically increased and thus the volume of solid wastes, generated through the consumption of those commodities, have been swelled and their waste compositions have been widely varied.</p> <p>Waste problems had been recognized as one of the serious concerns, but rarely any measures had been taken so far. Most of the wastes were disposed at the landfill site which had caused the environmentally and hygienically negative impacts on the surrounding areas, because most of landfills including the one in the state of Koror were open dumping system. Especially, the M-dock landfill, managed by the central government, located next to the residential areas of old capital city, had been swapped with complaints from neighboring residents and commercial facilities nearby due to the inappropriate waste management. Negative impacts had been also identified on the tourism, the one of the most attractive industries through which nation can earn its financial resources. Moreover, there had been another concern that the landfill capacity would become constraint in the near future. But it was very much a situation that the M-dock landfill should be used for the time being as there was no realistic ideas to construct the new landfill elsewhere.</p> <p>Under these circumstances, the government of the Republic of Palau requested Japan for the technical cooperation to improve the solid waste management focusing on the landfill management of M-Dock and to develop the National Solid Waste Management Plan.</p>	
Inputs	Japanese Side	Lao PDR Side
	<ol style="list-style-type: none"> Experts: Short-term experts 48.93MM Third-Country Training : 6 persons Equipment: 9.0 million yen Local Cost: 118.0 million yen 	<ol style="list-style-type: none"> Staff allocated: 9 persons Local Cost: US\$257,429 Land, facility: M-Dock landfill、 Workshop, Meeting Offices for Japanese experts, etc.
Project Objective	Overall goal: Successful experiences of Koror State are maintained and disseminated to other states in the Republic of Palau.	
	Project Purpose: Capacity of solid waste management of the national government and Koror State is enhanced.	
	Outputs: <ol style="list-style-type: none"> A national solid waste management plan to reduce the volume of waste disposal is developed. Existing waste disposal practices are improved to reduce environmental and health risks in Koror State. Personnel of the concerned agencies for Solid Waste Management in Palau are trained. 	

II Result of the Evaluation

Summary of the Evaluation
In the Republic of Palau, the Bureau of Environmental Protection, and the Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce (BPW-MPIIC) are responsible for the waste management of the country. In practical levels, related departments in the field of waste management are in charge of the operation in each state. In case of the state of Koror, the Public Works Department-SWM Office, Koror State Government (PWD-SWM, KSG) is responsible for the

waste collection, while the Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce (BPW-MPIIC) is responsible for the landfill management.

For the project purpose, “capacity of solid waste management of the national government and Koror State is enhanced”, it was achieved at the project completion. However, the effects have not been maintained after the completion of the project.

According to the capacity assessment conducted at the ex-post evaluation, in terms of the society and institutional level, the revisions of relevant regulations which is imperative to implement the national solid waste management plan has not yet completed. As for the overall goal “Maintaining the successful experiences in the Koror State and dissemination to other states”, the National Solid Waste Management Plan was officially approved, and successful experiences have been further progressed in the Koror State. However, only few activities have been practiced so far in terms of the dissemination and expansion of those experiences to other states. In this sense, the overall goal has been partially achieved.

As for the sustainability, the implementing agency has no problems in policy and technical aspects. However, in terms of structural aspects, there are some problems, such that the concerned departments are partly understaffed, the construction of the new landfill has been suspended and the landfill management of M-dock has become partly inappropriate for its prolonged use. As for the financial aspects, as the collection of dumping fees has not been practiced yet, it is somewhat difficult to secure the necessary budget for its maintenance. If the revenue earned through the recycling program of KSG will be used for the ordinary budget from the next year, it is expected that financial aspects of the sustainability will be improved.

For relevance, the project has been highly relevant with Palau’s development policy, development needs and Japan’s ODA policy at the time of ex-ante evaluation and at the project completion. For efficiency, the project cost exceeded the plan. In light of the above, this project is evaluated to be partially satisfactory.

1 Relevance

This project has been highly relevant with Palau’s development policy “to protect and improve the natural environment including the management of native environment and prevention of pollution” as set in the National Development Plan 2020, development needs that it is imperative to improve the waste management in order to promote the tourism industry and to protect the national living environment”, as well as Japan’s ODA policy toward Pacific Island countries endorsed at the Pacific Islands Leaders Meeting and the JICA’s country assistance policy to improve the solid waste management at the time of both ex-ante and project completion.

Therefore, relevance of this project is high.

2 Effectiveness / Impact

This project has for some extent achieved the project purpose and overall goal. For the project purpose, “capacity of solid waste management of the national government and Koror State is enhanced”, it was achieved at the project completion. According to the capacity assessment conducted at the project completion, what had been targeted in all three levels (i.e. individual, organizational and society and institution) were attained at their achievement level of 70%. Although there are some problems, such that the flies are circling around the nearby hotels and the bad odors somewhat remains, the condition of M-dock landfill has been improved in comparison with what was before the project. However, the effects of the project have not been properly maintained after the project completion. According to the ex-post evaluation study, the following problems have been identified in the capacity of society and institutional level. The revisions of relevant regulations which is imperative to implement the national solid waste management plan has not yet completed by the government. This is due to that it has taken a lot of time in the decision making process reflecting some ineffectiveness of organizational management. Furthermore, it was identified that the landfill manuals for the maintenance of M-dock landfill has not been timely revised and the maintenance operation has not been properly carried out.

As for the overall goal “maintaining the successful experiences in the Koror State and dissemination to other states”, the followings have been identified. Although the National Solid Waste Management Plan was officially approved, the affiliated regulations under the Plan have not yet been updated yet. Successful experiences have been further progressed in the Koror State, however, only few activities have been practiced so far in terms of the dissemination and expansion to other states. In this sense, the overall goal has been partially achieved. Therefore, its effectiveness/impact of this project is fair.



M-Dock Landfill before the cover soil



M-Dock Landfill in the cover soil operation

3 Efficiency

While inputs were appropriate for producing outputs of the project and project period was within the plan (ratio against the plan: 100%), project cost was higher than the plan (ratio against the plan: 154%). It is due to the volume increase of experts' assistance and third-country trainings for counterparts, but such increase of inputs were relevant to achieve outputs. Therefore, efficiency of the project is fair.

4 Sustainability

The Solid Waste Management Strategy has been considered as one of the key policies in the Republic of Palau under the National Development Plan and the National Solid Waste Management Plan. In this sense, this project is considered as a great importance in the Republic of Palau. The structure of implementing agency has been sustained in a similar manner with the implementation period, but there are some problems, such that the related departments are partly understaffed, the landfill management of M-dock has been partly inappropriate for its prolonged use¹, and the revision of manuals for M-dock landfill has not been done yet. The plan to construct the new landfill has been suspended due to the opposition of communities, and it has remained uncertain how the plan is to be progressed. Staff trained under the project have now been continuously working in both BPQ-MPIIC and PWD-SWM, KSG, and they can carry out the daily operation and maintenance of M-dock landfill, waste collection as well as the public education and enhancement of the community.



3R promotion posters developed by the project has been effectively utilized at schools.

As for the financial aspects, the budget allocation for the daily routine work has been properly secured, but the collection of dumping fees has not been practiced yet. Systematic and deliberate maintenance and management has not been practiced; thus staff should apply the budget for equipment maintenance in every time whenever any repair is needed and equipment may often remain unrepaired at the end of fiscal year. If the revenue earned through the recycling program of KSG will be used for the ordinary budget from the next year, it is expected that the financial aspects of the sustainability will be improved. Therefore, sustainability of this project is fair.

III Recommendations & Lessons Learned

Recommendations for the Implementing Agency :

It is recommended that the implementing agency should generate the financial resources for the construction of new landfill. At the same time, they should prepare the feasible management plan considering with its actual condition of finance.

Lessons learned for JICA :

In order to maintain the project effects, it is recommended that the discussion in practical term should be started during the project implementation period or at the time of terminal evaluation through ex-post evaluation, on how those activities can be continued, who can take a lead and how the financial resources can be obtained, etc. after project completion.

¹ In practical term, the cover soil operation had been temporarily suspended due to the breakdown of bulldozer and budget shortages, the pump at the leachate controlling facility had remained unrepaired. Attempts were made to carry out the renovation work, such as the extension of gas collection pipe, though.